Catalogue of Salmon Streams and Spawning Escapements of Statistical Area 14 Comox-Parksville

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March 1985

Canadian Data Report of
Fisheries & Aquatic Sciences
No. 504

85-3934/

Canadian Data Report of Fisheries and Aquatic Sciences

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Rapport statistique canadien des sciences halieutiques et aquatiques

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Les numéros 1 à 25 de cette série ont été publiés à titre de relevés statistiques, Services des pêches et de la mer. Les numéros 26 à 160 ont été publiés à titre de rapports statistiques du Service des pêches et de la mer, ministère des Pêches et de l'Environnement. Le nom actuel de la série a été établi lors de la parution du numéro 161.

Les rapports statistiques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés seront fournis contre rétribution par des agents commerciaux.

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CATALOGUE OF SALMON STREAMS AND SPAWNING ESCAPEMENTS

STATISTICAL AREA 14
COMOX - PARKSVILLE

by

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Minister of Supply and Services Canada 1985
Cat. No. Fs 97-13/504 ISSN 0706-6465

Correct citation for this publication:

Hancock, M.J. and D.E.Marshall. 1985 Catalogue of Salmon Streams and Spawning Escapements of Statistical Area 14 Comox-Parksville Can. Data Rep. Fish and Aquat. Sci. 504: xiii + 134p.

ABSTRACT

Hancock, M.J. and D.E.Marshall, 1985. Catalogue of Salmon Streams and Spawning Escapements of Statistical Area 14, Comox-Parksville.Can. Data Rep. Fish and Aquat. Sci. 504: xiii + 134p.

Catalogue containing each stream's location, spawning distribution, barriers and points of difficult ascent, escapement records and other general data pertaining to the stream. The catalogue also includes a topographical map of the stream and in some cases a sketch map which further describes the surrounding area.

Keywords: British Columbia, Statistical Area 14, Comox-Parksville, salmon streams, spawning escapements.

RÉSUMÉ

Hancock, M.J. and D.E.Marshall, 1985. Catalogue of Salmon Streams and Spawning Escapements of Statistical Area 14, Comox-Parksville. Can. Data Rep. Fish and Aquat. Sci. 504: xiii + 134p.

Le présent répertoire donne l'emplacement de chaque cours d'eau, la répartition de fraie, les points de remonte difficile, les données sur les saumons de remonte et d'autres information générales concernant le cours d'eau. On y trouve aussi une carte topographique de l'emplacement du cours d'eau et, dans quelque cas, un croquis décrivant la zone environte.

Mots-cles: Colombie-Britannique, zone statistique 14, Comox-Parksville, cours d'eau à saumons, remonte.

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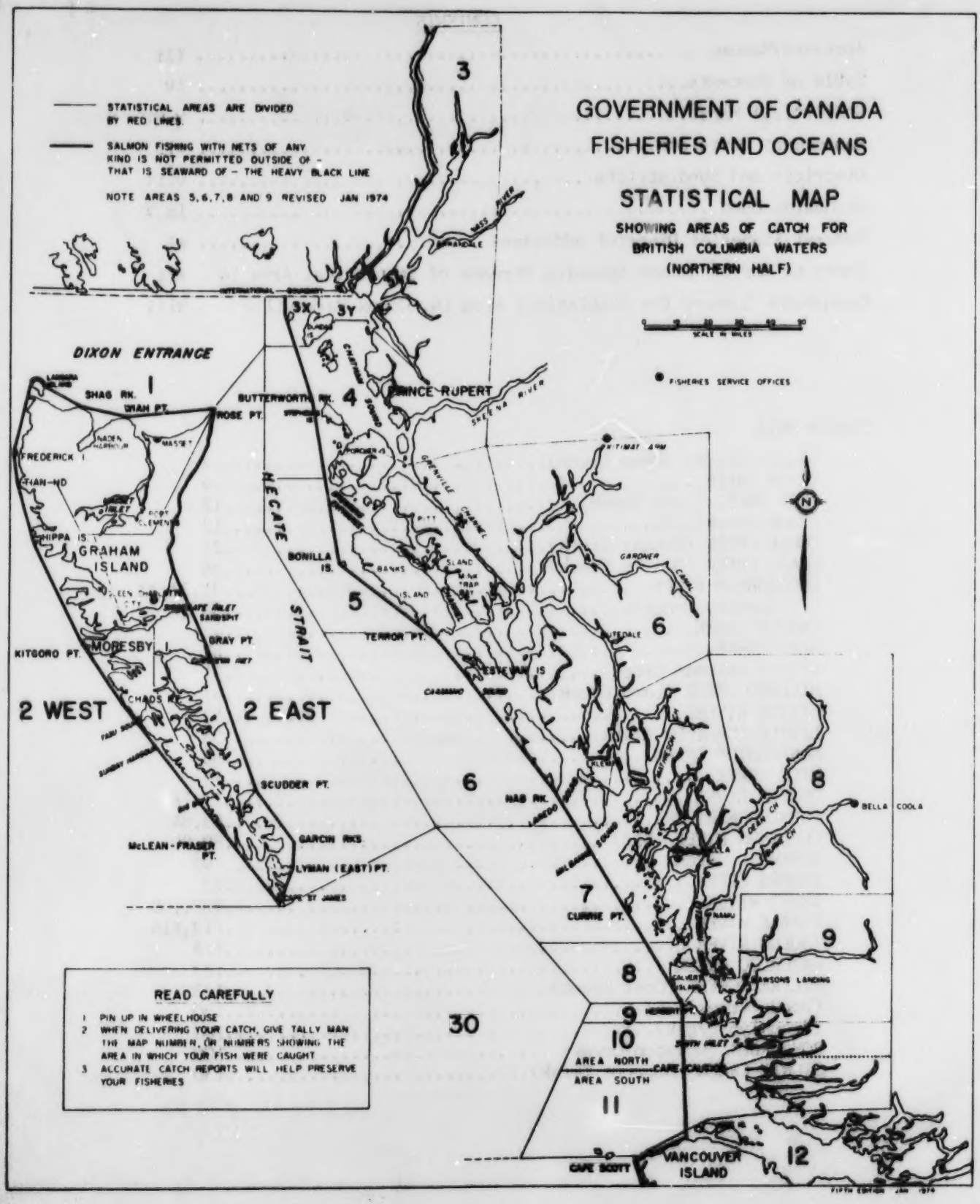
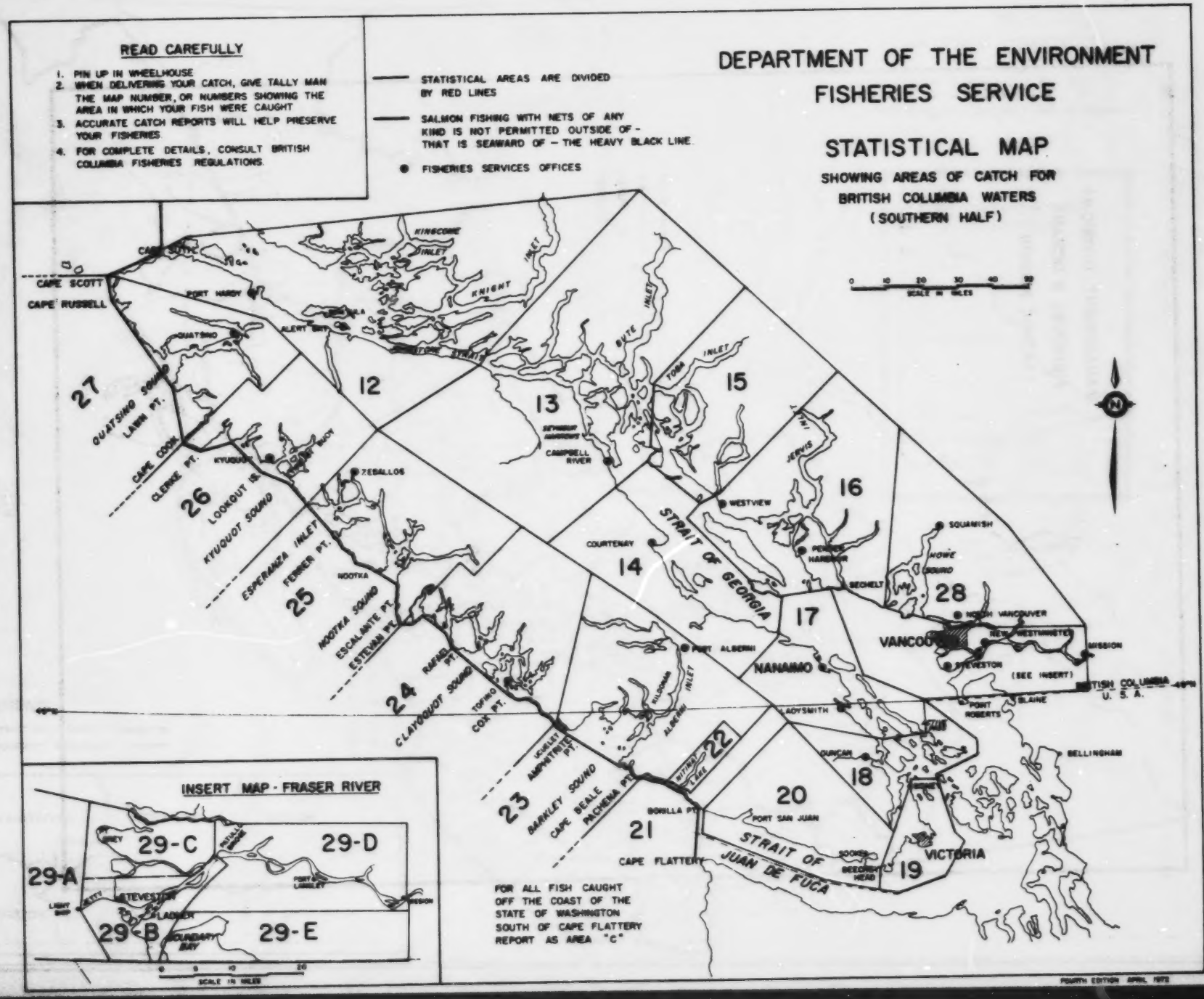
STREAM DATA

(Annie Creek, Shaws Creek) 2
BLACK CREEK 4
CHEF CREEK (Lynn Creek) 12
(Cook Creek) 12
COWIE CREEK (Cougar Creek) 21
CRAIG CREEK (Beaver Creek) 26
ENGLISHMAN RIVER 31,32,33
(Fillongley Creek) 38
FRENCH CREEK 42
HART CREEK 47
(Kitty Coleman Creek) 51
MILLARD CREEK (Lard Creek) 67
LITTLE RIVER 53
LITTLE QUALICUM RIVER 58
McNAUGHTON CREEK 63
NILE CREEK 72
OYSTER RIVER 77,78
PUNTLEDGE RIVER 83.84
QUALICUM RIVER (Big) 89,90
ROSEWALL CREEK 95
THAMES CREEK 72
TRENT RIVER 108,109
TSABLE RIVER 113,114
TSOLUM RIVER 118
WATERLOO CREEK 123
WILFRED CREEK (Coal Creek) 123
(Woods Creek) 130
(Brooklyn Creek) 100
ROY CREEK (Royston Creek) 100
STORIE CREEK (Storrie Creek) 130


STATISTICAL AREAS ARE DIVIDED BY RED LINES.
SALMON FISHING WITH NETS OF ANY KIND IS NOT PERMITTED OUTSIDE OF - THAT IS SEAWARD OF - THE HEAVY BLACK LINE
NOTE AREAS 5,6,7,8 AND 9 REVISED JAN 1974
GOVERNMENT OF CANADA
FISHERIES AND OCEANS
STATISTICAL MAP
SHOWING AREAS OF CATCH FOR BRITISH COLUMBIA WATERS (NORTHERN HALF)
SCALE IN MILES
FISHERIES SERVICE OFFICES
DIXON ENTRANCE
SHAG RK.
WIAH PT.
ROSE PT.
BUTTERWORTH RK.
PRINCE RUPERT
SKEENA RIVER
FREDERICK I
MASSET
QUEEN CHARLOTTE ISLANDS
HIPPA IS.
GRAHAM ISLAND
MORESBY I.
KITGORO PT.
GRAY PT.
CHAOS PT.
2 WEST
2 EAST
HECATE STRAIT
BONILLA IS.
TERROR PT.
SCUDDER PT.
McLEAN-FRASER PT.
GARCIN RKS.
LYMAN (EAST) PT.
CAPE ST JAMES
HAB RK.
CURRIE PT.
HERBERT PT.
AREA NORTH
AREA SOUTH
CAPE CAUTION
CAPE SCOTT
VANCOUVER ISLAND
BELLA COOLA
DAWSONS LANDING
GARDNER CANAL
GREENVILLE CHANNEL
CHATHAM SOUND
DIXON ENTRANCE
1
2 WEST
2 EAST
3
3X
3Y
4
5
6
7
8
9
10
11
12
30
READ CAREFULLY
1 PIN UP IN WHEELHOUSE
2 WHEN DELIVERING YOUR CATCH, GIVE TALLY MAN THE MAP NUMBER, OR NUMBERS SHOWING THE AREA IN WHICH YOUR FISH WERE CAUGHT
3 ACCURATE CATCH REPORTS WILL HELP PRESERVE YOUR FISHERIES
FIFTH EDITION JAN 1974


READ CAREFULLY
1. PIN UP IN WHEELHOUSE
2. WHEN DELIVERING YOUR CATCH, GIVE TALLY MAN THE MAP NUMBER, OR NUMBERS SHOWING THE AREA IN WHICH YOUR FISH WERE CAUGHT
3. ACCURATE CATCH REPORTS WILL HELP PRESERVE YOUR FISHERIES
4. FOR COMPLETE DETAILS, CONSULT BRITISH COLUMBIA FISHERIES REGULATIONS.
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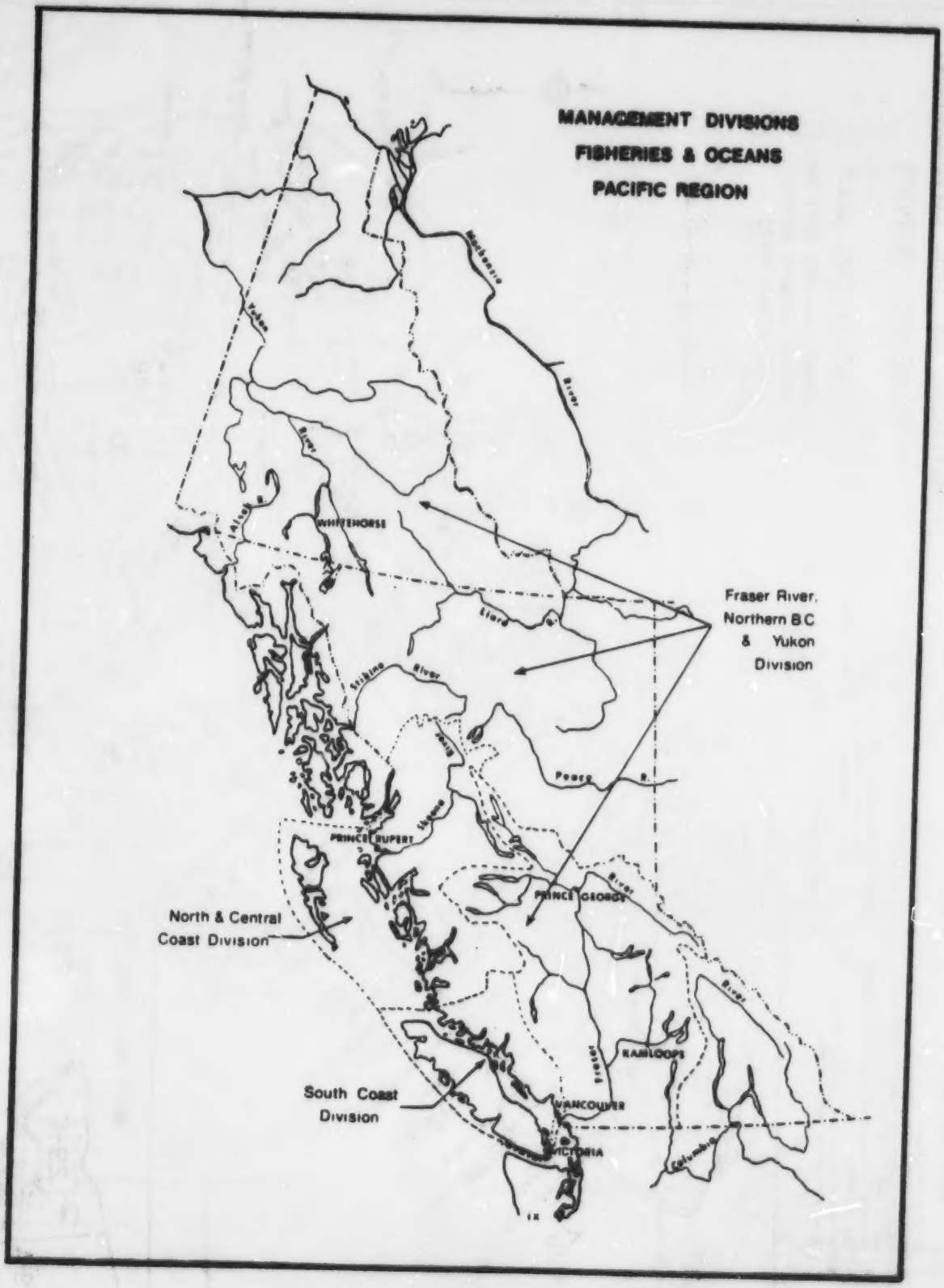
SALMON FISHING WITH NETS OF ANY KIND IS NOT PERMITTED OUTSIDE OF - THAT IS SEAWARD OF - THE HEAVY BLACK LINE.
FISHERIES SERVICES OFFICES
DEPARTMENT OF THE ENVIRONMENT
FISHERIES SERVICE
STATISTICAL MAP
SHOWING AREAS OF CATCH FOR BRITISH COLUMBIA WATERS (SOUTHERN HALF)
SCALE IN MILES
CAPE SCOTT
CAPE RUSSELL
PORT HARDY
QUATSINO
ALERT BAY
KINGCOME INLET
KNIGHT INLET
BUTE INLET
TOMA INLET
JERVIS INLET
27
QUATSINO SOUND
LAWN PT.
CAPE COOK
CLERKE PT.
26
LOOKOUT IS.
KYUQUOT SOUND
ESPERANZA INLET
FERRER PT.
25
NOOTKA SOUND
ESCALANTE PT.
ESTEVAN PT.
24
RAFAEL PT.
CLAYOQUOT SOUND
TOFINO
COX PT.
23
BARKLEY SOUND
CAPE BEALE
PACHENA PT.
21
CAPE FLATTERY
12
13
15
16
17
18
19
20
22
28
ZEBALLOS
CAMPBELL RIVER
COURTENAY
PORT ALBERNI
WESTVIEW
POWELL HARBOUR
SQUAMISH
HOWE SOUND
BECHELT
NANAIMO
LADYSMITH
DUNCAN
VANCOUVER
NORTH VANCOUVER
NEW WESTMINSTER
PRINCETON
MISSION
(SEE INSERT)
BRITISH COLUMBIA
U. S. A.
POINT ROBERTS
BLAINE
BELLINGHAM
VICTORIA
PORT SAN JUAN
SOOKE
BECHER HEAD
STRAIT OF JUAN DE FUCA
STRAIT OF GEORGIA
NOOTKA
HESQUIAT HARBOUR
VICTORIA LAKE
INSERT MAP - FRASER RIVER
29-A
29-B
29-C
29-D
29-E
PT. GREY
STEVESTON
LADNER
BOUNDARY BAY
PORT MANN
PORT KELLS
LANGLEY
SCALE IN MILES
FOR ALL FISH CAUGHT OFF THE COAST OF THE STATE OF WASHINGTON SOUTH OF CAPE FLATTERY REPORT AS AREA "C"
FOURTH EDITION APRIL 1972


MANAGEMENT DIVISIONS
FISHERIES & OCEANS
PACIFIC REGION
Fraser River, Northern B.C & Yukon Division
North & Central Coast Division
South Coast Division
WHITEHORSE
PRINCE RUPERT
PRINCE GEORGE
KAMLOOPS
VANCOUVER
VICTORIA

YUKON SOUTH
ALSEK-TAKU
NORTHERN B.C.
UPPER NASS
HAZELTON
LOWER NASS
TERRACE
SMITHERS
SKEENA
PRINCE GEORGE
MASSET
GRENVILLE-PRINCIPE
KITIMAT
QUESNEL
WEST COAST QCI
BANKOTT
BELLA BELLA
BELLA COOLA
WILLIAMS LAKE
CLEARWATER
RIVERS INLET
SOUTH PACIFIC
SEYMOUR INLET
ALERT BAY
CAMPBELL RIVER
LILLOOET
KAM-LOOPS
SALMON ARM
QUATSINO SOUND
SQUAMISH
KYUQUOT
POWELL RIVER
PENDER HARBOUR
TAHSIS
COMOX
MISSION
VAN
CHILLIWACK
TOFINO
NANAIMO
PORT ALBERNI
DUNCAN
COQUITLAM
SURREY
STEVESTON
SOOKE
VICTORIA-SAANICH
LEGEND
DISTRICT BOUNDARY
SUBDISTRICT BOUNDARY
VANCOUVER
COQUITLAM
MISSION
STEVESTON
SURREY
CHILLIWACK
BRITISH COLUMBIA
FISHERIES & OCEANS – Pacific Region
WHITEHORSE DISTRICT
YUKON-ARCTIC
ALSEK-TAKU
YUKON SOUTH
NORTHERN B.C.

STANDARDS USED ON STREAM DATA PAGE

Name of Stream: Name given in Gazetteer of Canada, British Columbia 1966 edition;

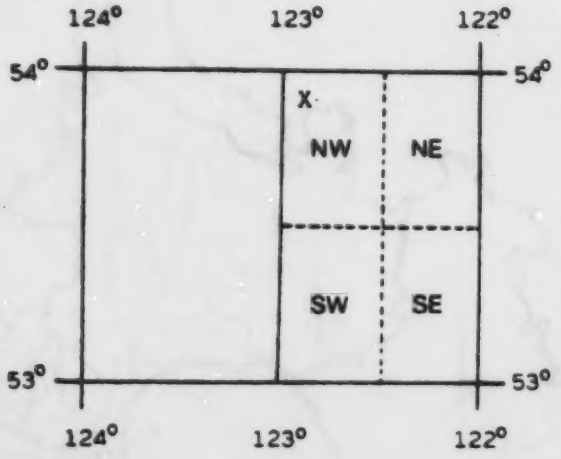
Statistical Area: As defined by D.F.O.showing areas of catch for B.C.waters (Map dated Jan. 1974)

Districts and Subdistricts : As defined by D.F.O.(Map 1985)

RAB Numbers : The Aquatics Unit of the Resource Analysis Branch, Ministry of the Environment have assigned a hierarchical coding system (RAB number) to drainage basins of British Columbia. RAB numbers classify catchment areas and river channels. Further information on RAB coding system can be found in "A Hierarchical Watershed Coding System for British Columbia", RAB Technical Paper #3, Ministry of the Environment, Victoria, B.C. June 1980.

Location and Position: Defined by quadrant indexing. Each geographical quadrilateral of the earth's surface of 1 degree in extent in latitude and longitude is divided into the SE, SW, NE and NW quarters. The south-east corner of each quadrilateral gives the initial point for the figure of reference (Gazetteer of Canada).

EXAMPLE "X"
53° 122° NW



Length: The portion of the stream accessible to spawning salmon.

Drainage: Area in square kilometers of the entire drainage basin feeding the stream.

Discharge: Extremes of maximum and minimum daily discharge for the period of the last 30 years. Discharge date is taken from "Historical Stream Flow Summary", British Columbia, Water Survey of Canada.

Temperature: As described (^{o}C)

Barriers and Points of difficult ascent: Complete and partial barriers to salmon and their distance from the stream mouth. Species likely to be affected may be listed. Both natural and man-made obstructions are defined.

Spawning distribution:
Portion of the stream utilized by each species. Distribution is indicated by brief comments opposite the species.

General remarks: Emphasizes features of stream and spawning populations. Also includes industrial activity, routes of accessibility, etc. The comments and dates are taken from "Annual Reports of Salmon Streams and Spawning Grounds". In some cases, references to additional information not included in the General remarks may be given.

Escapement Records: The escapement represents the mid point of the coded range of escapement for each species. For example: the letter "H" representing 5000-10000 fish would be entered as 7500. Where absolute numbers are provided by Fisheries Personnel, these numbers are entered. N/O means the stream was inspected, but no fish were observed; UNK means there was evidence of fish present, but no estimates were made; NO RECORDS means no escapement records for the applicable years could be found in the escapement files.

Timing: Dates which salmon arrive in the stream, begin to spawn, reach peak spawning period and finish spawning.

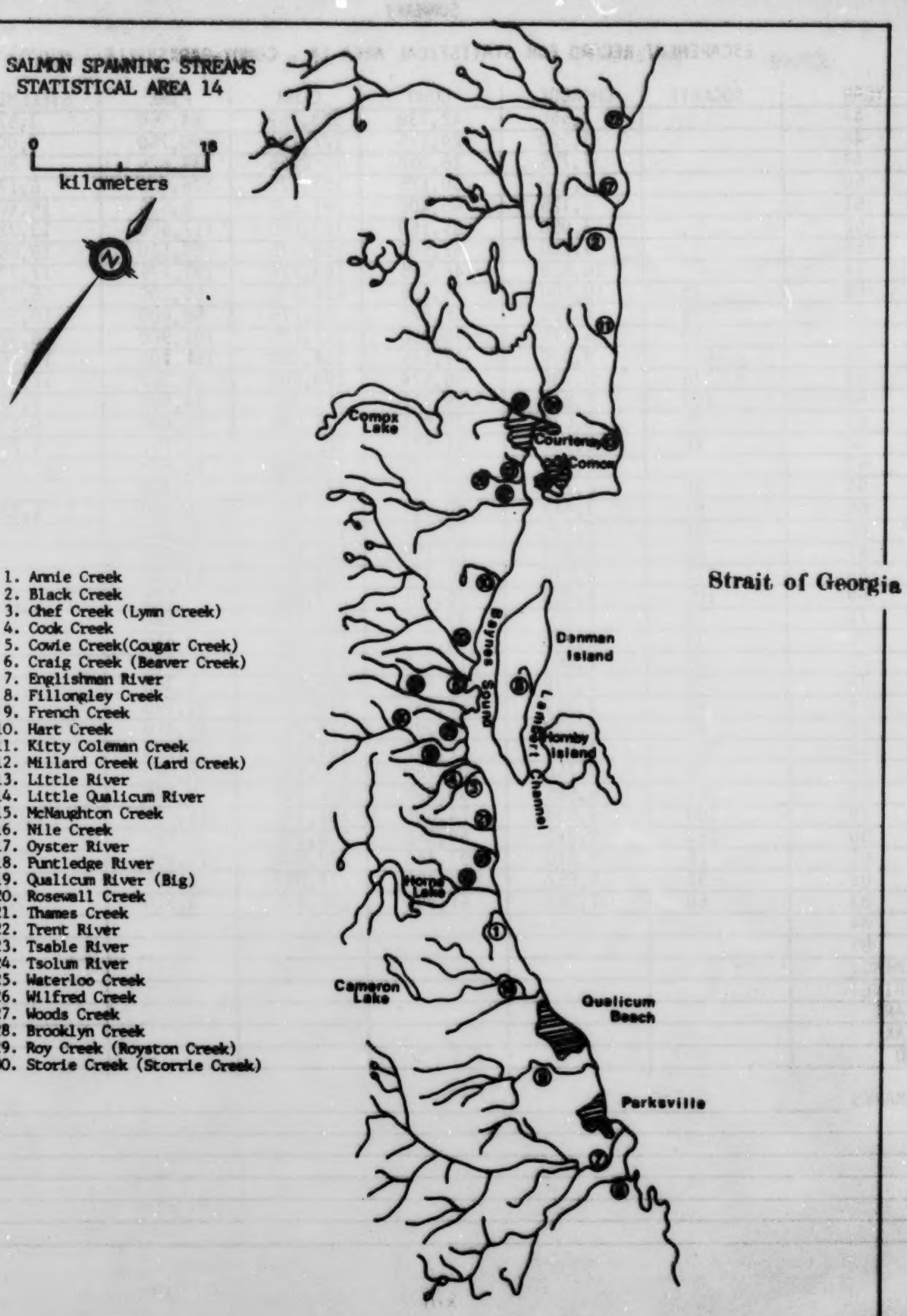
E = early (1st to 10th of the month)
M = mid (11th to 20th of the month)
L = late (21st to end of the month)

NB: Distance references are from the mouth of the stream unless otherwise stated.

FISHERIES & OCEANS - Pacific Region

DISTRICT/SUB-DISTRICT OFFICES

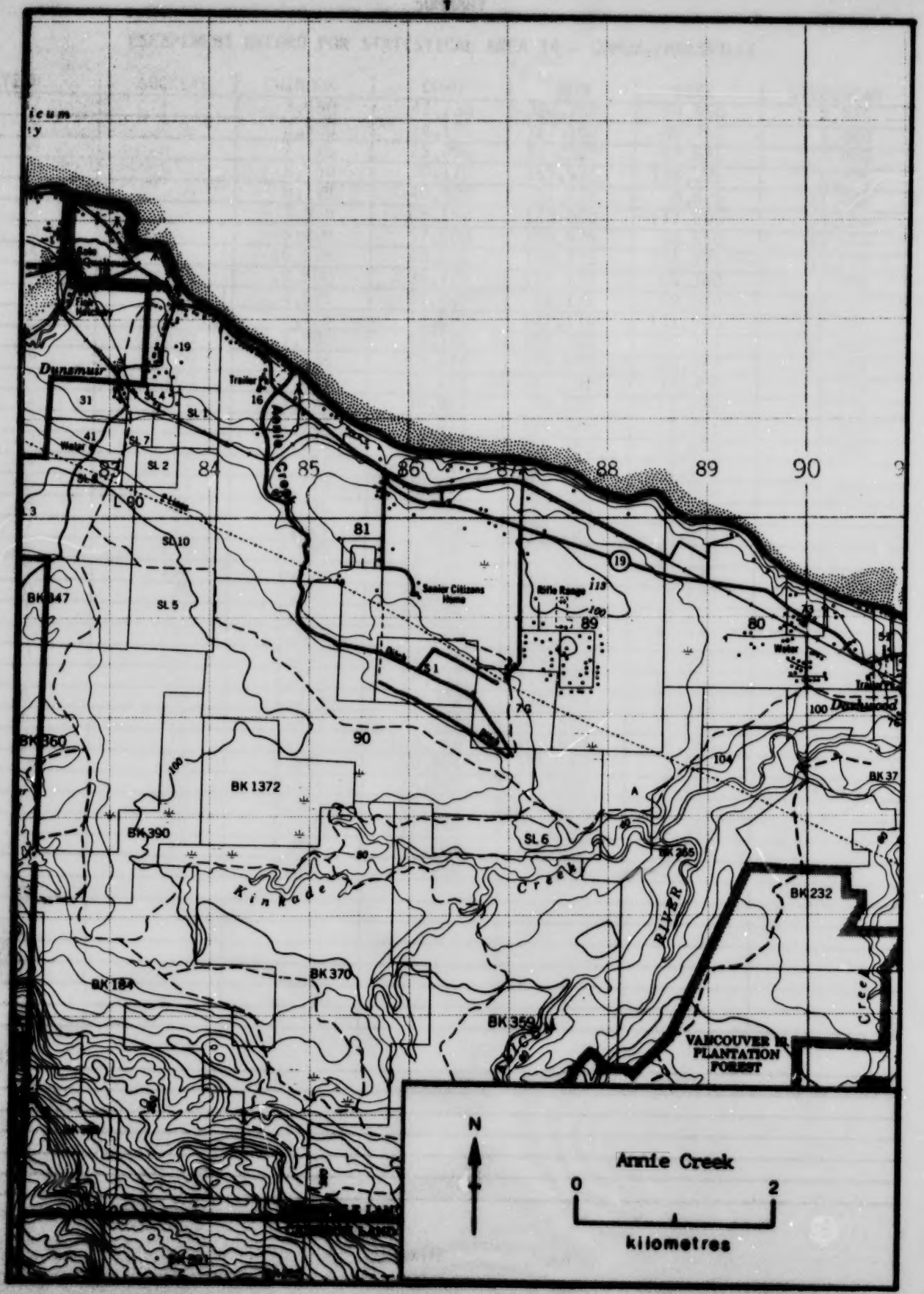
DISTRICT/SUB-DISTRICT	ADDRESS	TELEPHONE	SUB-DISTRICT NUMBER
DISTRICT #1 - Kamloops	202 - 317 Seymour St., Kamloops, V2C 2E9	374-4322	
Salmon Arm	Box 1160, 461 Beatty Ave. NW, Salmon Arm V0E 2T0	832-8037	29K
Prince George	2392 Ospika Blvd., Prince George, V2N 3N5	564-7030	29I
Clearwater	Box 610, Clearwater, V0E 1N0	674-2633	29J
Lillooet	Box 315, Lillooet, V0K 1V0	256-4525	29F
Quesnel	Box 4340, Quesnel, V2J 3J3	992-2434	29H
Williams Lake	540 Borland St, Williams Lake, V2G 1R9	398-6544	29G
DISTRICT #2 - New Westminster	309 - 549 Columbia St., New West., V3L 1B3	524-7181	
Vancouver	309 - 549 Columbia St., New West., V3L 1B3	524-7306	28A
Surrey	309 - 549 Columbia St., New West., V3L 1B3	524-7171	29B
Coquitlam	309 - 549 Columbia St., New West., V3L 1B3	524-7169	29C
Steveston	1255 No. 1 Road, Richmond, V7E 1T7	274-7217	29A
Squamish	Box 85, Squamish, V0N 3G0	892-3230	28B
Mission	Box 3308, Mission, V2V 4J5	826-3664	29D
Chilliwack	Suite 5, 9375 Mary St., Chilliwack, V2P 4G9	792-6011	29E
DISTRICT #3 - Nanaimo	60 Front St., Nanaimo, V9R 5H7	754-3257	
Nanaimo/Ladysmith	60 Front St., Nanaimo, V9R 5H7	754-3257	17
Qualicum Beach	Box 1270, Qualicum Beach, V0R 2T0	752-9712	14S
Comox	Box 1328, Comox, V9N 3R0	339-2031	14N
Duncan	Box 241, 191 Ingram St., Duncan, V0L 3X3	746-6221	18
Powell River	4488 Marine Avenue, Powell River, V8A 2K2	485-9621	15
Pender Harbour	Box 10, Madeira Park, V0N 2H0	883-2313	16
DISTRICT #4 - Port Alberni	Box 280, Federal Building, Port Alberni, V9Y 7M7	724-0195	
Port Alberni	Box 280, Federal Building, Port Alberni, V9Y 7M7	724-0195	23
Quatsino Sound	Box 10, Port Hardy, V0N 2P0	949-6422	27
Kyuquot	Box 549, Tahsis, V0P 1X0	934-6606	26
Tahsis	Box 549, Tahsis, V0P 1X0	934-6606	25
Tofino	Box 48, Tofino, V0R 2Z0	725-3468	24
DISTRICT #5 - Campbell River	215 - 950 Alder St., Campbell River, V0W 2P8	287-2102	
Campbell River	215 - 950 Alder St., Campbell River, V0W 2P8	287-2102	13
Seymour Inlet	Box 10, Port Hardy, V0N 2P0	949-6422	11
Alert Bay	Box 10, Alert Bay, V0N 1A0	974-5216	12
DISTRICT #6 - Victoria	116 - 816 Government St., Victoria, V8W 1W9	566-3252	
Victoria/Saanich	116 - 816 Government St., Victoria, V8W 1W9	566-3252	19
Sooke	Box 460, Sooke, V0S 1N0	642-5322	20
DISTRICT #7 - Kitimat	315 - 450 Federal Building, Kitimat, V8C 1T6	632-4884	
Butedale	315 - 450 Federal Building, Kitimat, V8C 1T6	632-4884	6
Bella Bella	Box 38, Bella Bella, V0T 1B0	957-2363	7
Bella Coola	Box 130, Bella Coola, V0T 1C0	799-5345	8
Rivers Inlet	Dawson Landing P.O., Rivers Inlet, V0N 1R0		9
Smith Inlet	Dawson Landing P.O., Rivers Inlet, V0N 1R0		10
DISTRICT #8 - Prince Rupert	109 - 417 2nd Ave. West, Prince Rupert, V8J 1G8	624-9137	
Waterfront	109 - 417 2nd Ave. West, Prince Rupert, V8J 1G8	624-9137	
Skeena	109 - 417 2nd Ave. West, Prince Rupert, V8J 1G8	624-9137	4A
Greenville - Principe	109 - 417 2nd Ave. West, Prince Rupert, V8J 1G8	624-9137	5
Lower Nass	109 - 417 2nd Ave. West, Prince Rupert, V8J 1G8	624-9137	3A
Upper Nass	Box 29, Nass Camp, V0J 3J0	633-2408	3B
Hazelton	Box 327, Field Street, Hazelton, V0J 1Y0	842-6327	4C
Smithers	Box 578, Smithers, V0J 2N0	847-2312	4D
Terrace	4721-B Lazelle Ave., Terrace, V8G 1R6	635-2206	4B
DISTRICT #9 - Queen Charlotte Is.	Box 99, Queen Charlotte City, V0T 1S0	559-4413	
West Coast Q.C.I.	Box 99, Queen Charlotte City, V0T 1S0	559-4413	2W
Masset	Box 99, Masset, V0T 1M0	626-3316	1
Sandspit	Box 222, Sandspit, V0T 1T0	637-5340	2E
DISTRICT #10 - Whitehorse	122 Industrial Road, Whitehorse, Y.T., Y1A 2T9	667-2235	
Yukon South/Northern B.C.	122 Industrial Road, Whitehorse, Y.T., Y1A 2T9	667-2235	120
Yukon-Arctic	122 Industrial Road, Whitehorse, Y.T., Y1A 2T9	667-2235	110
Alsek-Tuku	Box 5341, Haines Junction, Y.T., Y0B 1L0	634-2235	130


SALMON SPAWNING STREAMS
STATISTICAL AREA 14
0
10
kilometers
Comox Lake
Courtenay
Comox
Strait of Georgia
Denman Island
Hornby Island
Lambert Channel
Horne Lake
Cameron Lake
Qualicum Beach
Parksville
1. Annie Creek
2. Black Creek
3. Chef Creek (Lynn Creek)
4. Cook Creek
5. Cowie Creek(Cougar Creek)
6. Craig Creek (Beaver Creek)
7. Englishman River
8. Fillongley Creek
9. French Creek
10. Hart Creek
11. Kitty Coleman Creek
12. Millard Creek (Lard Creek)
13. Little River
14. Little Qualicum River
15. McNaughton Creek
16. Nile Creek
17. Oyster River
18. Puntledge River
19. Qualicum River (Big)
20. Rosewall Creek
21. Thames Creek
22. Trent River
23. Tsable River
24. Tsolum River
25. Waterloo Creek
26. Wilfred Creek
27. Woods Creek
28. Brooklyn Creek
29. Roy Creek (Royston Creek)
30. Storie Creek (Storrie Creek)

ESCAPEMENT RECORD FOR STATISTICAL AREA 14 - COMOX-PARKSVILLE

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
47		3,550	42,738	328,759	84,950	3,575
48		3,500	24,175	127,101	90,750	1,000
49		7,725	26,050	11 2825	37,625	800
50		8,550	30,175	152,925	126,625	6,175
51		8,125	40,400	281,625	6,625	15,400
52		3,950	85,150	123,000	117,500	13,225
53		5,200	57,500	158,675	58,550	19,650
54		16,525	48,525	168,225	191,775	17,775
55	75	10,500	36,725	124,475	55,300	6,725
56	75	4,525	35,825	82,175	58,800	10,300
57	250	5,775	48,000	147,175	101,900	8,925
58	650	9,000	47,125	164,400	186,300	11,850
59	76	6,336	50,574	199,500	20,062	11,325
60	100	5,844	29,712	151,262	14,900	9,125
61	75	3,036	35,961	76,600	16,626	8,175
62	28	2,687	41,873	126,975	7,751	9,250
63		2,919	38,725	156,450	18,628	10,000
64	50	2,127	83,409	122,875	2,450	
65	61	3,443	40,617	39,550	5,850	4,225
66	25	2,795	70,424	145,350	24,850	
67	20	2,029	20,156	121,100	5,604	
68	275	2,090	26,331	342,350	10,700	
69	100	1,900	15,101	209,987	575	137
70	75	2,820	49,093	296,150	9,680	
71	75	2,132	56,525	133,025	2,650	
72	125	1,860	18,250	238,875	13,700	
73	175	1,932	22,778	310,580	5,368	
74	50	1,559	56,431	214,720	11,950	45
75	50	2,329	47,392	178,153	11,410	
76	225	1,979	27,657	161,425	11,230	
77	75	4,750	103,760	169,528	8,050	
78	370	5,605	50,990	295,150	3,535	
79	100	9,534	74,605	191,375	15,650	1,000
80	260	8,821	68,552	238,350	16,695	
81	70	5,510	97,440	228,600	10,955	
82	38	6,852	74,784	274,093	1,096	10
83	50	7,361	61,990	285,695	3,310	200
84						
85						
TIMING:						
ARRIVE						
START						
PEAK						
END						

REMARKS


Dunsmuir
Senior Citizens Home
Rifle Range
Water
Trailer
Dunkerwood
BK 1372
BK 390
BK 184
BK 370
BK 359
BK 265
BK 232
BK 37
SL 1
SL 2
SL 4
SL 5
SL 6
SL 7
SL 10
Kinkade Creek
RIVER
VANCOUVER ISLAND PLANTATION FOREST
N
Annie Creek
0
2
kilometres

NAME OF STREAM (Annie Creek, Shaws Creek) RAB No. 92-3520

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NW. into Straits of Georgia, S. of Qualicum Bay, Newcastle Dist. POSITION 49 124 SW.

LENGTH _____ km WIDTH _____ m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT

Twin 4 ft. culverts under Hwy. 19 are passable at high flows.
Small log jams partially removed in 1958.
Impassable high ground at Hwy. 19 culvert should be changed.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	-in lower creek below Hwy 19, few above Hwy.
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions:

1970/78 No significant erosion and silting.
1979 Extensive erosion and silting in lower reaches — extensive scouring — flash flooding.
1980/83 Reported heavy discoloration and gravel shifting in lower reaches.

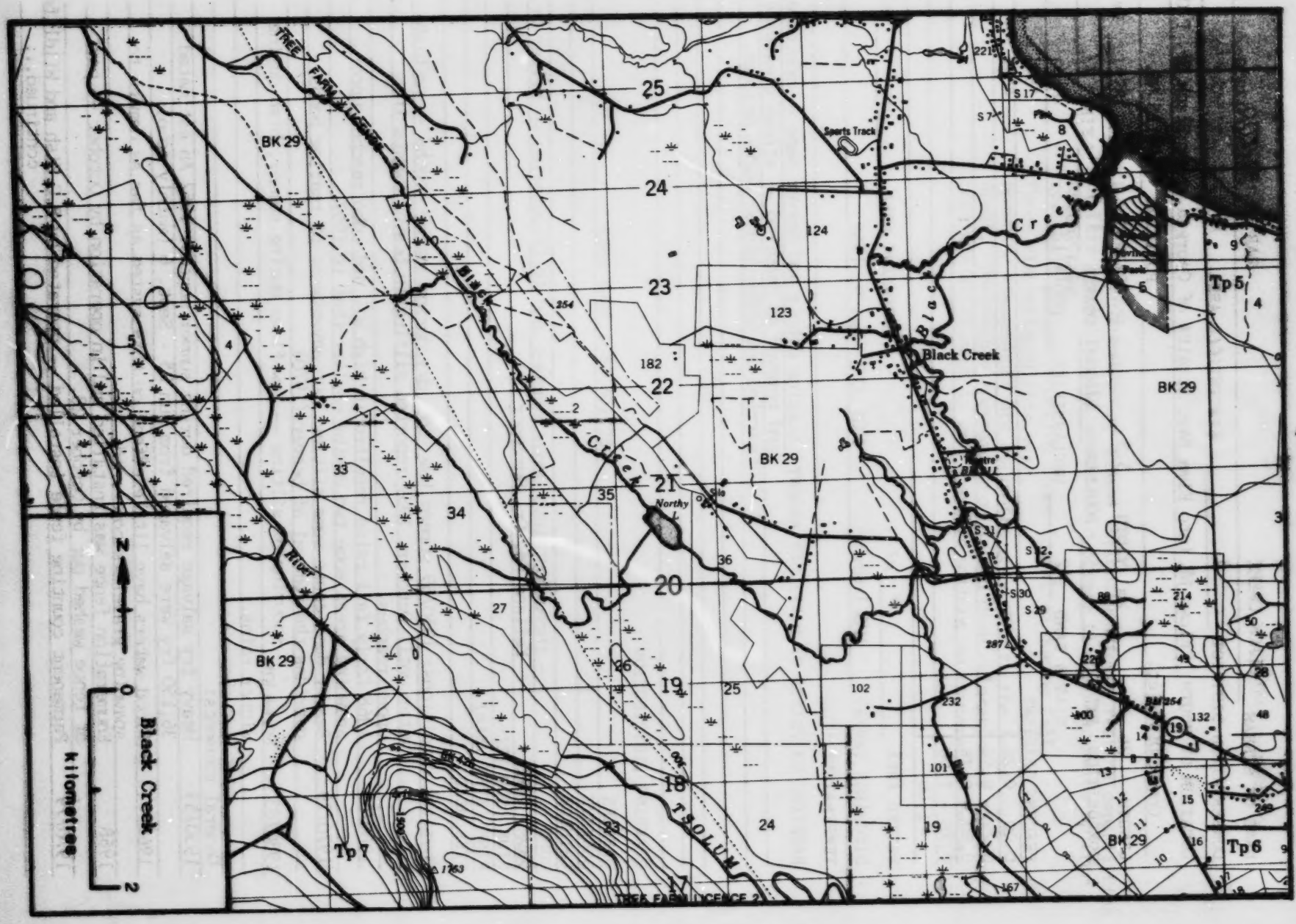
GENERAL REMARKS

1970/72 A very small coho creek with good cover in lower portion.
1973 A camp ground development (Costa Lotta) is causing problems.
1979/80 Evidence of abuse over the years. Lower end at Costa Lotta camp site has been shored up with logs, rock and sheet metal resulting in the formation of chute with high velocity flows.
1981 Lower reaches rip-rapped by water rights this year which should stabilize banks. Coho from Big Qualicum seeded in stream this year.
1982 Dark color due to peat bog at headwaters. This area has been excavated for water storage on a potato farm.

ESCAPEMENT RECORD FOR (Annie Creek, Shaw's Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68			NO RECORDS PRIOR TO 1970			
69						
70			75			
71			75			
72			25			
73			25			
74			75			
75			25			
76			25			
77			25			
78			45			
79			10			
80			10			
81			25			
82			2			
83			10			
84						
85						
TIMING:						
ARRIVE			E NOV			
START			NOV			
PEAK			E DEC			
END			L DEC			

REMARKS


Black Creek
N
0
2
kilometres
TREE FARM LICENCE 2
BK 29
Tp 5
Tp 6
Tp 7
Black Creek
Creek
River
Sports Track
Northy L.
TSOLUM
25
24
23
22
21
20
19
18
17

NAME OF STREAM BLACK CREEK RAB No. 92-2710

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE into Elma Bay, Straits of Georgia, near Black Cr. P.O., Comox District. POSITION 49 125 NE.

LENGTH 26 km WIDTH 5.5 m DRAINAGE _____ km²

COMPOSITION: BEDROCK _____ BOULDER 12 COARSE 17 FINE 17

SILT & SAND 42 UNCLASSIFIED pools 12

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m² SPAWNING AREA _____ m²

DISCHARGE (m³/s) MAX Unknown MIN .001 Aug. 9, 1968

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Logging debris and beaver dams — monitored and removed as required — stream clearance carried out under Winter Works program.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	throughout into upper reaches and in tributaries — Miller Cr. Kelland Rd. Cr. Surgenor Cr.
~~SPRING~~ COHO	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions: 1950/59 stream low to dry during summer months — no high water until October. 1959 reported silting in beaver swamps in upper reaches.

1960/69 1968 Early fall rains resulted in high W/L and coho reached upper spawning areas some two months earlier that in 1967.

1970/79 Beaver dams cause some silting, but advantages of rearing ponds overides the removal of beaver (1970)

1980/83 No major scouring or silting — low flows during summer, high during winter rains.

General comments:

1950/53 Heavy fry salvage required during summer months. 1952 An estimated 36,150 fry were salvaged from Jun 25 - Sept. 6 (mainly coho)

1966 Flood waters have little effect on this system as far as damage to spawning gravel is concerned.

1968 Enumeration fence was installed and in operation by October — part of fence washed out by October 28.

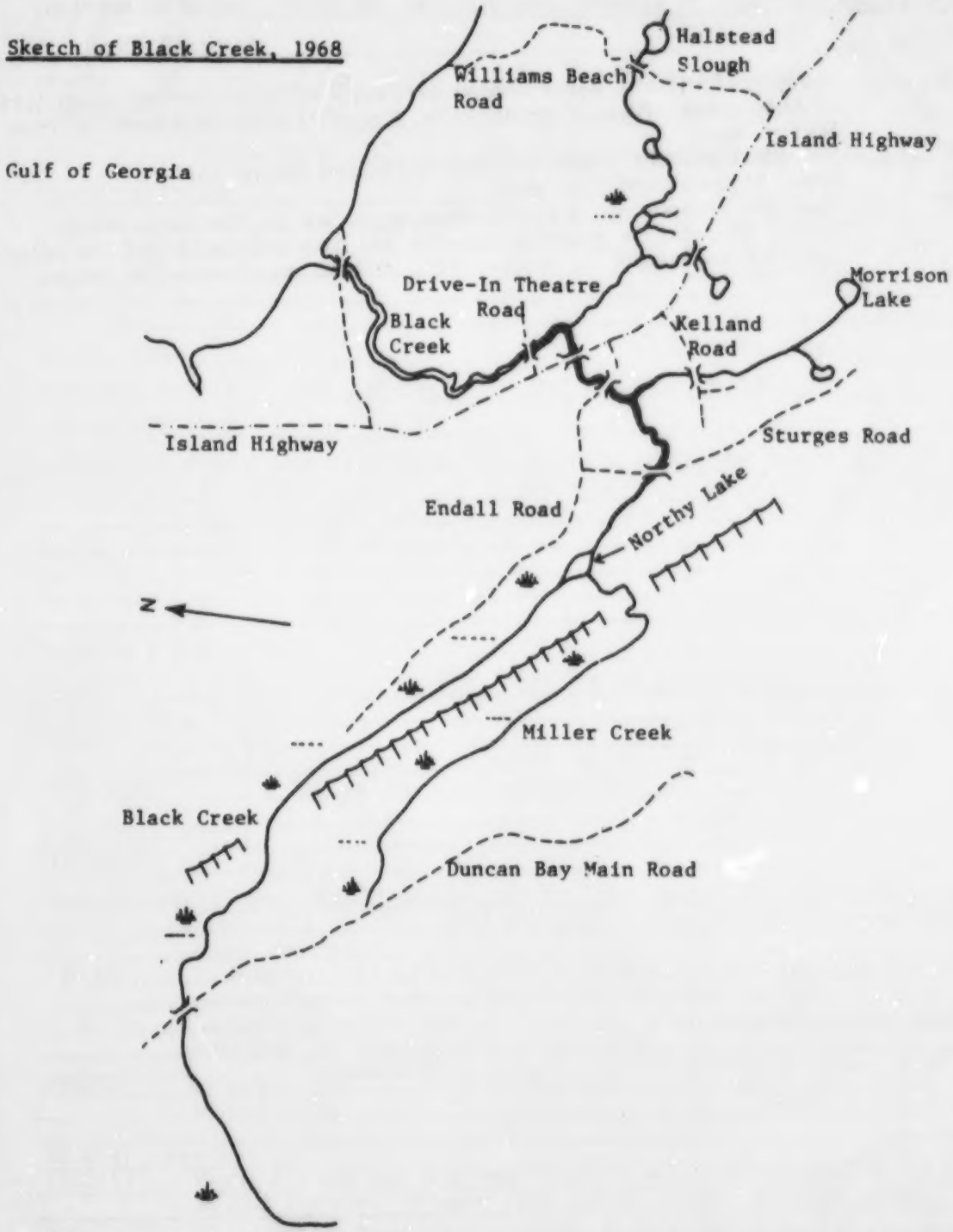
1970/79 Permanent counting fence installed — operated by B.C.Fish and Wildlife.

continued....

continuation

BLACK CREEK

1978	Heavy agricultural water demand seriously affects rearing capabilities of this creek. Pumping resulted in stream flowing backwards up from Northy Lake.
1980	SEP small project counting fence installed during fall.
1981	Fence discontinued this year.
1983	Spawning escapements are estimates only. Due to the large swamp areas, inacessible spawning grounds and dark coloration of the water, accurate assessment is not possible without an enumeration fence.


Sketch of Black Creek, 1968
Gulf of Georgia
Williams Beach Road
Halstead Slough
Island Highway
Drive-In Theatre Road
Black Creek
Kelland Road
Morrison Lake
Island Highway
Sturges Road
Endall Road
Northy Lake
N
Miller Creek
Black Creek
Duncan Bay Main Road

ESCAPEMENT RECORD FOR BLACK CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			3,500	N/0		N/0
48			1,500	N/0		N/0
49			1,500	750		N/0
50			1,500	N/0		N/0
51			1,500	N/0		200
52			1,500	N/0		200
53			1,500	N/0		200
54			1,500	N/0		200
55			1,500	N/0		200
56			1,500	N/0		75
57			7,500	N/0		200
58			1,500	N/0		750
59			7,500	N/0		400
60			400	N/0		200
61			7,500	N/0		200
62			7,500	N/0		200
63			3,500	N/0		200
64			15,000	N/0		N/0
65			7,500	N/0		N/0
66			15,000	N/0		N/0
67			6,000	N/0		N/0
68			4,656	N/0		N/0
69			1,200	N/0		N/0
70			8,000	N/0		N/0
71			10,000	N/0		N/0
72			4,500	N/0		N/0
73			6,000	N/0		N/0
74			8,000	N/0		N/0
75			10,000	N/0		N/0
76			3,500	N/0		N/0
77			4,500	-		-
78			8,400	-		-
79			2,000	-		-
80			3,500	-		-
81			750	-		-
82			2,500	-		-
83			3,000	-		-
84						
85						
TIMING:						
ARRIVE			L OCT			
START			L OCT			
PEAK			L NOV			
END			JAN			

REMARKS

Timing of Migration:	Period	10%	50%	90% of Total
Adult Coho	1968	Oct. 11	Oct. 22	Dec. 13

(Brooklyn Creek)

See Roy Cr. p.100

NAME OF STREAM (Brooklyn Creek) RAB No. 92-2780

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows into Comox Bay

POSITION

LENGTH km WIDTH m DRAINAGE km^2

COMPOSITION: BEDROCK BOULDER COARSE FINE

SILT & SAND UNCLASSIFIED

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA m^2 SPAWNING AREA m^2

DISCHARGE (m^3/s)

TEMPERATURE (°C)

BARRIERS OR POINTS OF DIFFICULT ASCENT Culvert at Balmoral Ave. 2.5km from mouth. Recommend removal (1983)

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- below Balmoral Ave.
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

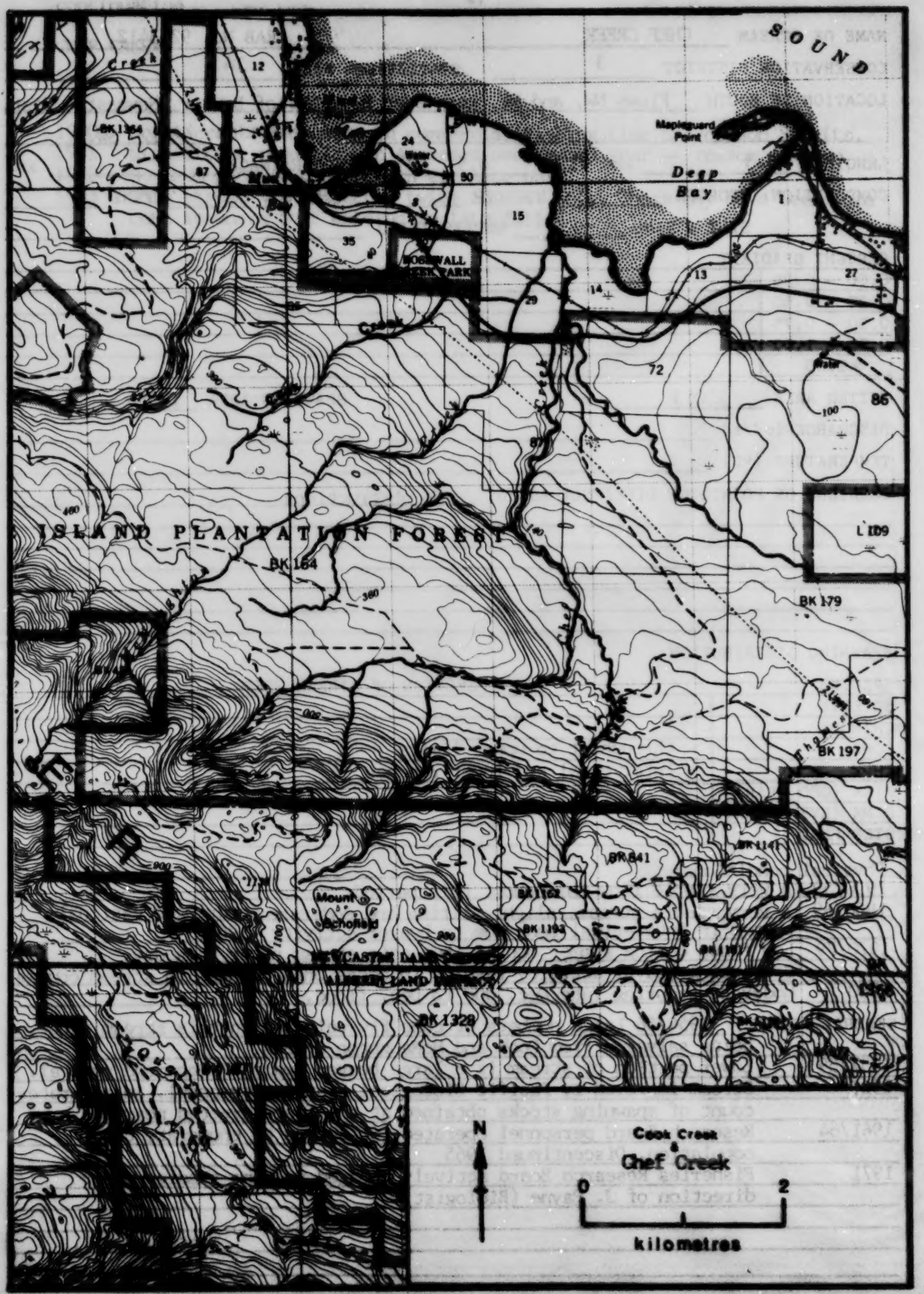
GENERAL REMARKS 1983 Some minor SEP work has been undertaken on this stream, however habitat degredation is adversely affecting salmonid production.

1983 Physical conditions: Considerable silt load during heavy precipitation. Water level critically low during summer months with extreme fluctuations during heavy rains.

ESCAPEMENT RECORD FOR (Brooklyn Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83			7			
84						
85						
TIMING:			OCT			
ARRIVE			L OCT			
START			M NOV			
PEAK			L NOV			
END						

REMARKS


SOUND
Deep Bay
Mapleguard Point
ISLAND PLANTATION FOREST
BK 164
BK 179
BK 197
BK 841
BK 1328
Mount Schofield
Cook Creek
Chef Creek
N
0
2
kilometres

NAME OF STREAM CHEF CREEK RAB No. 92-3412

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NW. and NE. into Deep Bay, NW. of Bowser, Newcastle Dist.

POSITION 48 124 SW.

LENGTH 5.5 km WIDTH 4.5 m DRAINAGE _____ km²

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA 25013 m² SPAWNING AREA 17556 m²

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT No obstructions

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout to upper limits
CHUM	- inter tidal and lower reaches
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions:

1950/59 A very stable flow throughout this period.

1960/69 A very stable stream, slight silting and moderate scouring. Occasional change in inter-tidal zone due to beaver activity (1969)

1970/79 Low flows during summer months, but this stream never goes dry. Continuing beaver activity results in occasional changes in stream course.

1980 Moderate scouring late Dec. due to Dec. flood.

GENERAL REMARKS 1954/56 Large numbers of coho fry released in this stream after being salvaged from Cook and McNaughton Creeks.

1957/59 Lower portion of stream is a large beaver swamp - recommend removal.

1960 Stream improved by Pacific Biological Station Personnel. An accurate count of spawning stocks obtained at the fence erected near the hwy.

1961/64 Research Board personnel operated two fences to enumerate coho population. Discontinued 1965

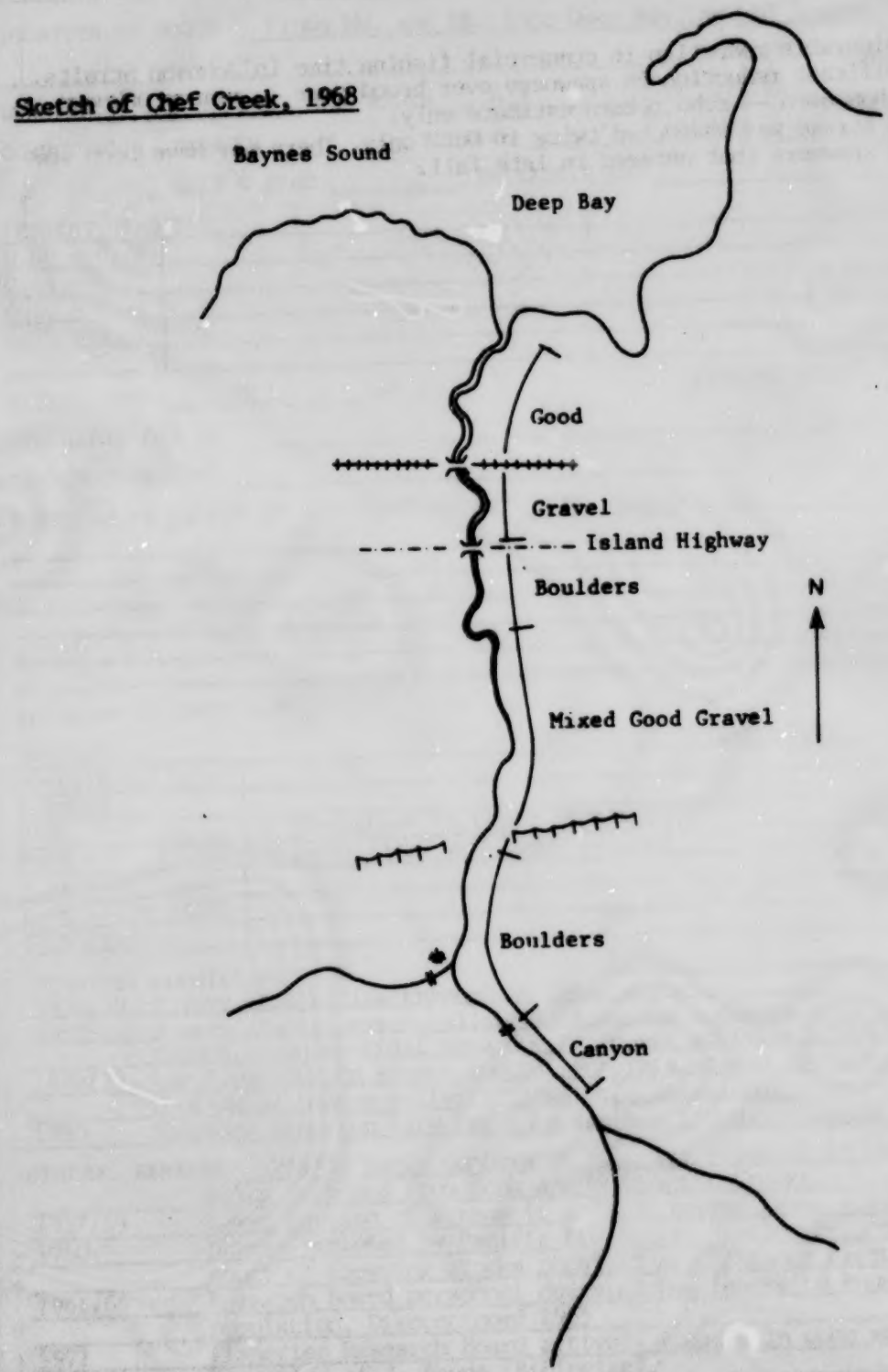
1971 Fisheries Research Board actively engaged in coho studies under direction of J. Payne (Biologist).

continued.....

continuation

CHEF CREEK

1980 Considerable reduction in commercial fishing time in Johnson Straits.
1981 Significant reduction in spawners over brood year — reason unknown.
1982 No chum seen — coho return estimate only.
1983 This stream was inspected twice in Oct. only. There may have been some coho spawners that entered in late fall.


Sketch of Chef Creek, 1968
Baynes Sound
Deep Bay
Good
Gravel
Island Highway
Boulders
N
Mixed Good Gravel
Boulders
Canyon

ESCAPEMENT RECORD FOR CHEF CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48			NO RECORDS PRIOR TO 1951			
49						
50						
51			400	200		
52			400	N/O		
53			1,500	200		
54			400	200		
55			750	75		
56			400	25		
57			750	200		
58			750	25		
59			200	N/O		
60			1,500	200		
61			750	25		
62			750	25		
63			750	75		
64			1,500	75		
65			750	25		
66			1,500	25		
67			800	N/O		
68			900	100		
69			1,000	50		
70			1,200	N/O		
71			1,500	N/O		
72			1,300	N/O		
73			800	N/O		
74			1,200	N/O		
75			800	N/O		
76			600	100		
77			750	150		
78			750	200		
79			400	-		
80			400	200		
81			75	50		
82			50	-		
83			N.O.			
84						
85						
TIMING:						
ARRIVE			M OCT	E OCT		
START			E NOV	E NOV		
PEAK			L NOV	E DEC		
END			DEC	L DEC		

REMARKS

Timing of Migration:	Period	10%	50%	90% of Total
Adult Coho	1961	Nov. 1	Nov. 10	Nov. 22
Adult Coho	1962	Nov. 9	Nov. 12	Nov. 21
Adult Coho	1963	Oct. 21	Nov. 14	Nov. 29
Adult Coho	1964	Nov. 9	Nov. 23	Nov. 30

(Cook Creek)

See Chef. Cr. P.12

NAME OF STREAM (Cook Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows N. into Deep Bay, NW. of Bowser, Newcastle Dist.

POSITION 49 124 SW.

LENGTH 2.5 km WIDTH 10 m DRAINAGE _____ km²

COMPOSITION: BEDROCK 1 BOULDER 40 COARSE 18 FINE 28

SILT & SAND _____ UNCLASSIFIED pools 13

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA 25896 m² SPAWNING AREA 11704 m²

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable 6m falls 2.5 - 3 km from mouth

log jams monitored and removed at migration

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout to upper limits
CHUM	-concentrated below Island Hwy. in lower reaches
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical Conditions: 1950/59 Usually dry in lower reaches until fall. Slight erosion and silting in lower reaches (5%)

1960/69 Erosion and silting ranging from 20% to 30%. Considerable scouring and course changes in lower reaches (63/66) 1968 Stream broke through banks and diverted to culverts, then dissipated into swampy area.

1970/79 Dry or extremely low during summer — subject to heavy fall floods and heavy scouring (1975)

1980/83 Slight siltation during freshets — moderate scouring during this period. Water levels critically low in summer, but maintains fairly stable flow during winter.

General Remarks:

1956/57 Heavy fry salvage operations required during summer.

1961/62 Bulldozer removed large quantity of excess gravel from streambed.

1963 Gravel bars again building up in lower river and at high w/l stream flows through the bush at several points.

1966 Chum and coho spawning subject to very heavy scouring during floods.

1970 Water levels dropped early and quickly this past spring before fry could be salvaged. continued....

(Cook Creek)

1977 Gravel bars are building up in the lower river. Fry salvage throughout the summer due to flows going underground.

1978 Chum spawned in intertidal flats due to extreme low water levels.(79)

1980 Considerable reduction in commercial fishing time Johnson Strait. Area below railway bridge dries in summer with resultant coho fry mortality.

1982 Spawning stocks significantly reduced over past year. Coho return estimate only.

1983 This stream is a major chum producer in this area. Spawning populations of chum have shown a gradual but steady increase since 1960 with the odd year having below normal returns.

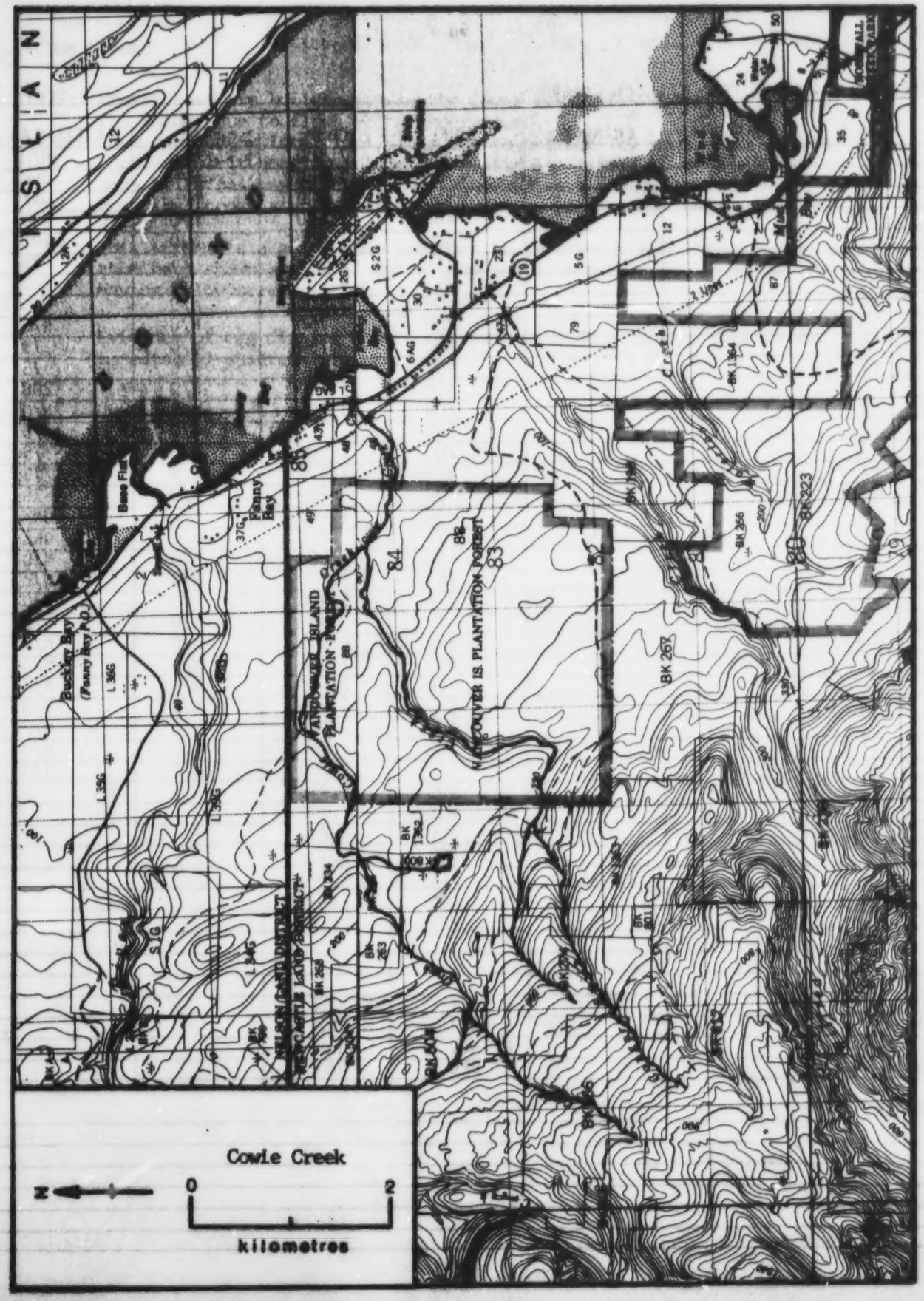
Evidence of egg digging near confluence of McNaughton and Cook Creek immediately upstream of intertidal zone.

Usual predators.

ESCAPEMENT RECORD FOR (Cook Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			750	7,500	N/O	N/O
48			750	7,500	N/O	UNK
49			750	3,500	N/O	UNK
50			400	7,500	N/O	200
51			400	7,500	N/O	200
52			750	3,500	25	75
53			750	3,500	25	200
54			400	3,500	N/O	N/O
55			200	750	N/O	N/O
56			200	750	N/O	75
57			400	3,500	N/O	75
58			400	7,500	N/O	200
59			200	3,500	N/O	N/O
60			200	750	N/O	75
61			200	1,500	N/O	75
62			200	1,500	N/O	75
63			200	750	N/O	75
64			400	1,500	N/O	UNK
65			75	200	N/O	UNK
66			400	1,500	N/O	N/O
67			150	1,200	N/O	N/O
68			375	6,500	N/O	N/O
69			75	900	N/O	N/O
70			400	5,000	N/O	N/O
71			400	1,300	N/O	N/O
72			150	7,500	N/O	N/O
73			150	4,000	N/O	N/O
74			400	5,000	N/O	N/O
75			200	3,000	N/O	N/O
76			75	1,200	N/O	N/O
77			400	2,950		
78			250	7,500		
79			500	3,200		
80			325	5,000		
81			200	6,900		
82			300	3,200		
83			300	5,500		
84						
85						
TIMING:						
ARRIVE			M OCT	M OCT		
START			L OCT	M OCT		
PEAK			L NOV	L NOV		
END			DEC	DEC		

REMARKS


Cowle Creek
N
0
2
kilometres
Buckley Bay
(Fanny Bay P.O.)
Base Flat
Fanny Bay
Denman Island
Plantation
Vancouver Is. Plantation Forest
Nelson Island Provincial Forest
Newcastle Land District
Hornby Island
Creek
Cr.
Trail
Road
Bk 323
Bk 266
Bk 263
Bk 264
Bk 265
Bk 260
Bk 261
Bk 262
Bk 1364
Bk 1366
Bk 1368
Bk 1369
L 36G
L 37G
L 38G
L 39G
L 34G
L 35G
S1G
S2G
5G
6AG
79
80
81
82
83
84
85
86
87

NAME OF STREAM COWIE CREEK (Cougar Creek) RAB No. 92-3200

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Fanny Bay, Newcastle Dist.

POSITION 49 124 NW.

LENGTH 5 km WIDTH 7 m DRAINAGE _____ km²

COMPOSITION: BEDROCK 4 BOULDER 43 COARSE 26 FINE 27

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA 45612 m² SPAWNING AREA 24244 m²

DISCHARGE (m³/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT

1 passable cascading type falls with 4' drop at 1.6km

1 impassable falls with 30' drop at 3.70km

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- middle to upper reaches
CHUM	- below Island Hwy. at intertidal zone
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical condition: 1965 Slight silting — heavy scouring in lower reaches
1966 Slight silting — very heavy scouring.
1970/79 Water levels very low during summer — 1970 reported dry stream bed between pools. 1975 Several high flood conditions washed out chum spawning.
1980/82 Moderate scouring, gravel displacement — light siltation during high flows. Normal water levels.

General Remarks:
1954/55 Two fishways blasted out by Fisheries personnel — one washed out owing to soft rock, the other still very satisfactory.
1958 Fishway requires some modification.
1966 Chum seeding subject to heavy scouring during fall floods.
1970 The Winter Works program employed a crew for stream clearance work.
1978 Extreme low water combined with beaver activity held up the movement of coho. Chum were confined to the intertidal areas and lower reaches.

continued.....

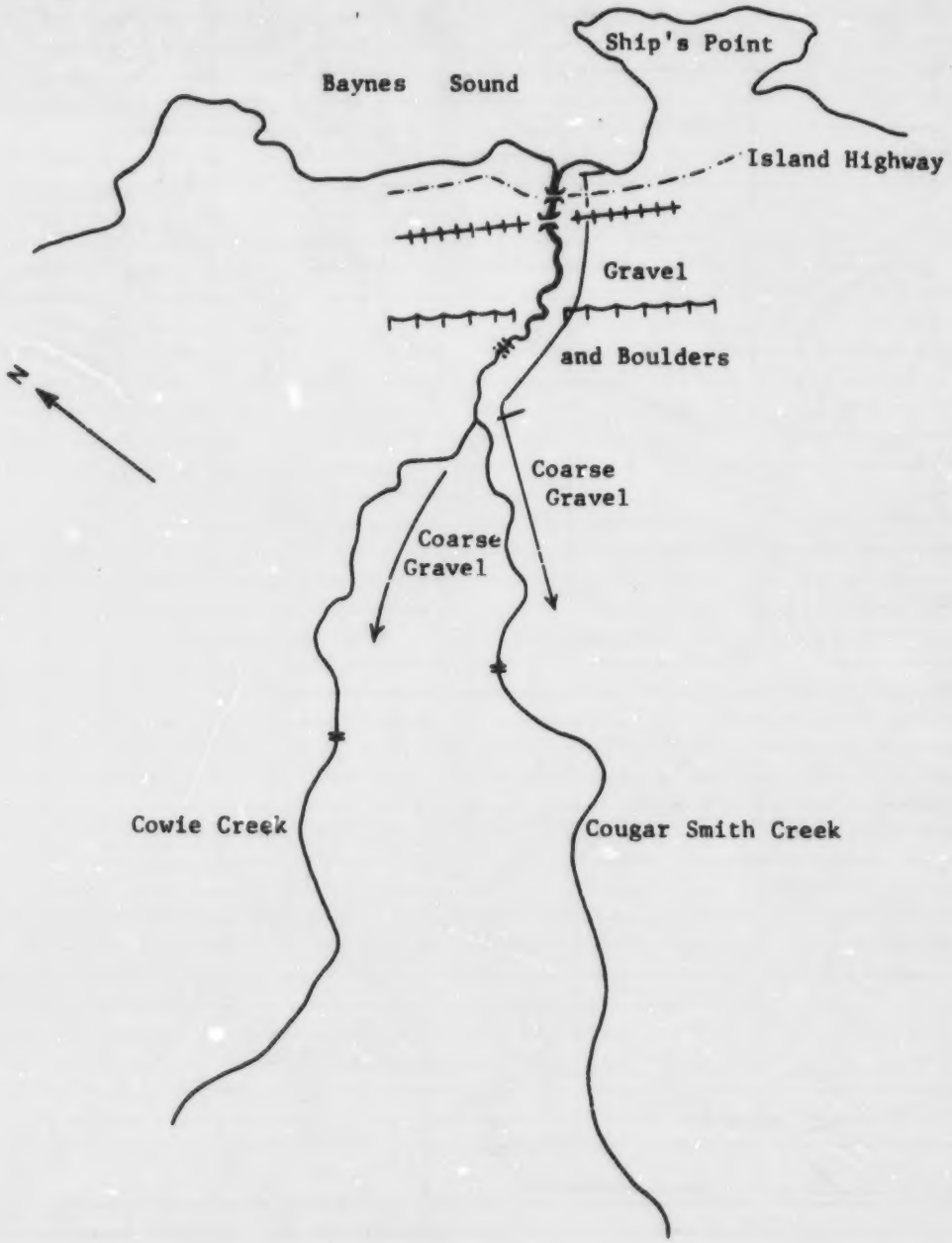
continuation
*

COWIE CREEK (Cougar Smith Creek)

1980 Considerable reduction in commercial fishing times Johnson Straits.
1982 Chum return very poor, coho return estimate only.
1983 This stream has shown a marked recovery of chum spawners. The largest return since 1968 when 1500 chum were recorded.

* Cougar Smith Creek, a tributary of Cowie Creek has a total accessible length of 1.6 km with an average width of 6.5 m and contributes approx. 10299 sq. meters of wetted area. Impassable falls 1.6 km above junction with Cowie Creek. Gradient and temperature comparable to Cowie Creek.

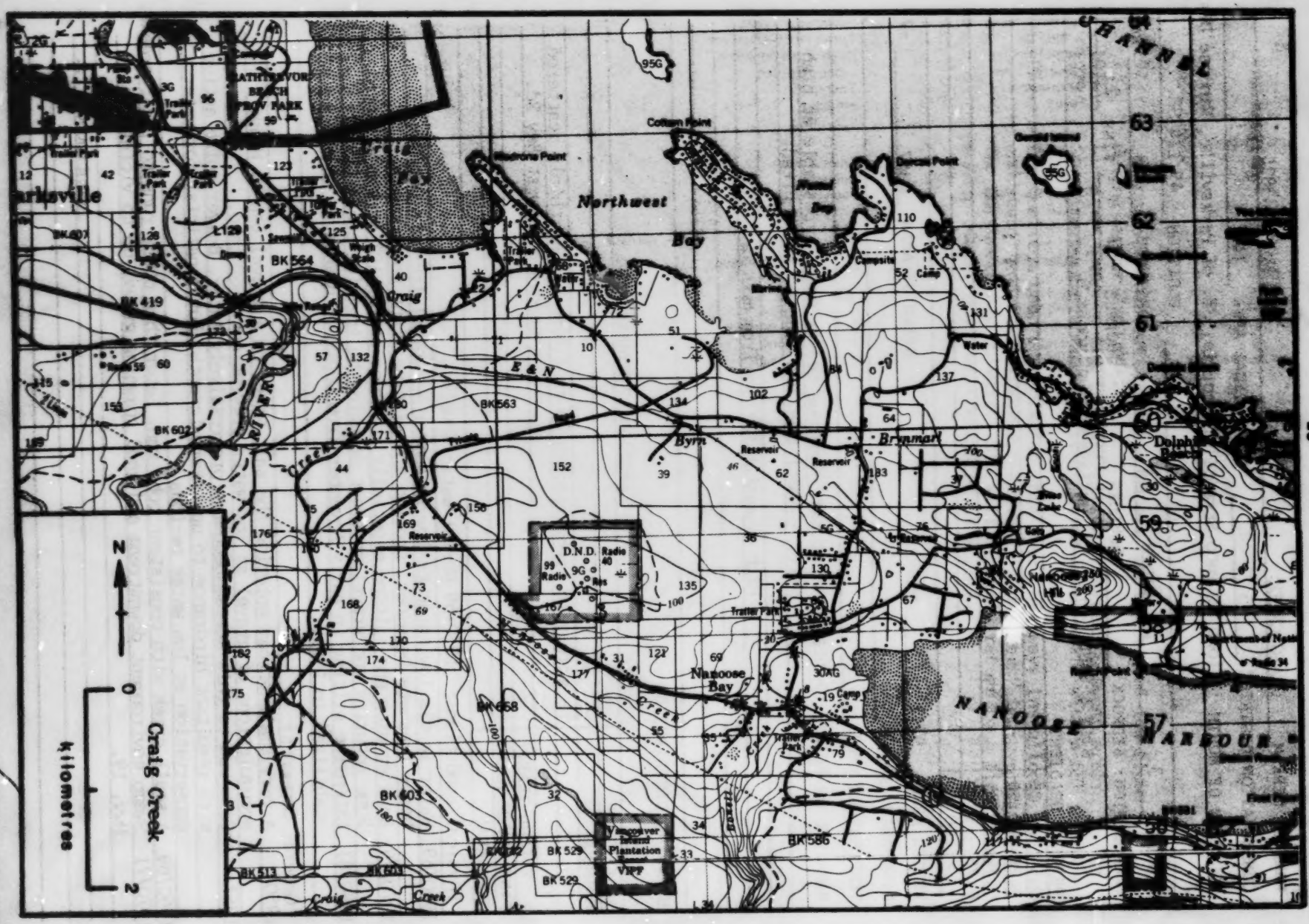
Sketch of Cowie Creek, 1968



ESCAPEMENT RECORD FOR COWIE CREEK (Cougar Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			1,500	3,500	N/O	N/O
48			750	3,500	N/O	N/O
49			200	3,500	N/O	UNK
50			400	3,500	N/O	200
51			750	7,500	200	400
52			750	1,500	25	400
53			3,500	3,500	N/O	750
54			750	3,500	N/O	400
55			750	1,500	N/O	750
56			750	750	N/O	400
57			400	3,500	N/O	200
58			400	3,500	N/O	400
59			75	750	N/O	400
60			200	750	N/O	400
61			200	750	N/O	75
62			200	750	N/O	75
63			200	750	N/O	75
64			400	750	N/O	N/O
65			200	200	N/O	N/O
66			400	750	N/O	N/O
67			150	1,000	N/O	N/O
68			200	1,500	N/O	N/O
69			175	350	N/O	N/O
70			300	300	N/O	N/O
71			300	200	N/O	N/O
72			100	700	N/O	N/O
73			150	550	N/O	N/O
74			250	200	N/O	N/O
75			150	70	N/O	N/O
76			100	175	N/O	N/O
77			175	600		
78			125	175		
79			200	100		
80			150	1,100		
81			50	600		
82			30	85		
83			25	1,200		
84						
85						
TIMING:						
ARRIVE			M OCT	L OCT		
START			L OCT	E NOV		
PEAK			L NOV	L NOV		
END			DEC	DEC		

REMARKS


Northwest
Bay
Nanoose
Bay
NANOOSE
HARBOUR
Craig
Creek
Craig Creek
Byrnt
Brynmar
D.N.D. Radio
Vancouver Island Plantation
VIPP
BK 564
BK 419
BK 602
BK 563
BK 658
BK 603
BK 529
BK 586
BK 513
E & N
N
0
1
2
kilometres

NAME OF STREAM CRAIG CREEK RAB No. 92-3825

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows N. into Straits of Georgia, SE. of Parksville, Nanoose Dist.

POSITION 49 124 SE.

LENGTH 3 km WIDTH 3 m DRAINAGE ____ km²

COMPOSITION: BEDROCK ____ BOULDER ____ COARSE 22 FINE 23

SILT & SAND 49 UNCLASSIFIED pools 6

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA 9711 m² SPAWNING AREA 4347 m²

DISCHARGE (m^3/s) ____

TEMPERATURE (°C) ____

BARRIERS OR POINTS OF DIFFICULT ASCENT Numerous beaver dams — passable at high water — monitored and removed as required.

High ground 3-3.50 km from mouth.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- mainly in lower reaches up to 1.6km — some thinly scattered above Northwest Bay Rd.
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions: 1950/59 Normal water levels.

1960/69 Water levels low to acute low in summer — normal freshets Oct/Nov, heavy freshets December. Erosion and silting light to moderate.

1970/79 Bank erosion and silting especially in lower stream 10% stream affected. Some scouring and gravel movement damaging to spawning areas (1972)

1980/83 Extensive silting in early November from Dept. of Highways project — stabilized in 1981.

General Comments:

1950 A very small stream entering the salt water on a gravel beach. Heavy accumulations of gravel at low water prevent entry of coho.

1957 Coho run to this stream becoming progressively later. Beaver quite active with resultant hindrance to upstream migrants, but beneficial for water conservation at low water periods.

1960/69 A small creek with consistent coho run. Later than other runs to local creeks.

1970/71 Swamp environment downstream and good spawning gravel up to vicinity of Hwy. 19.

continued.....

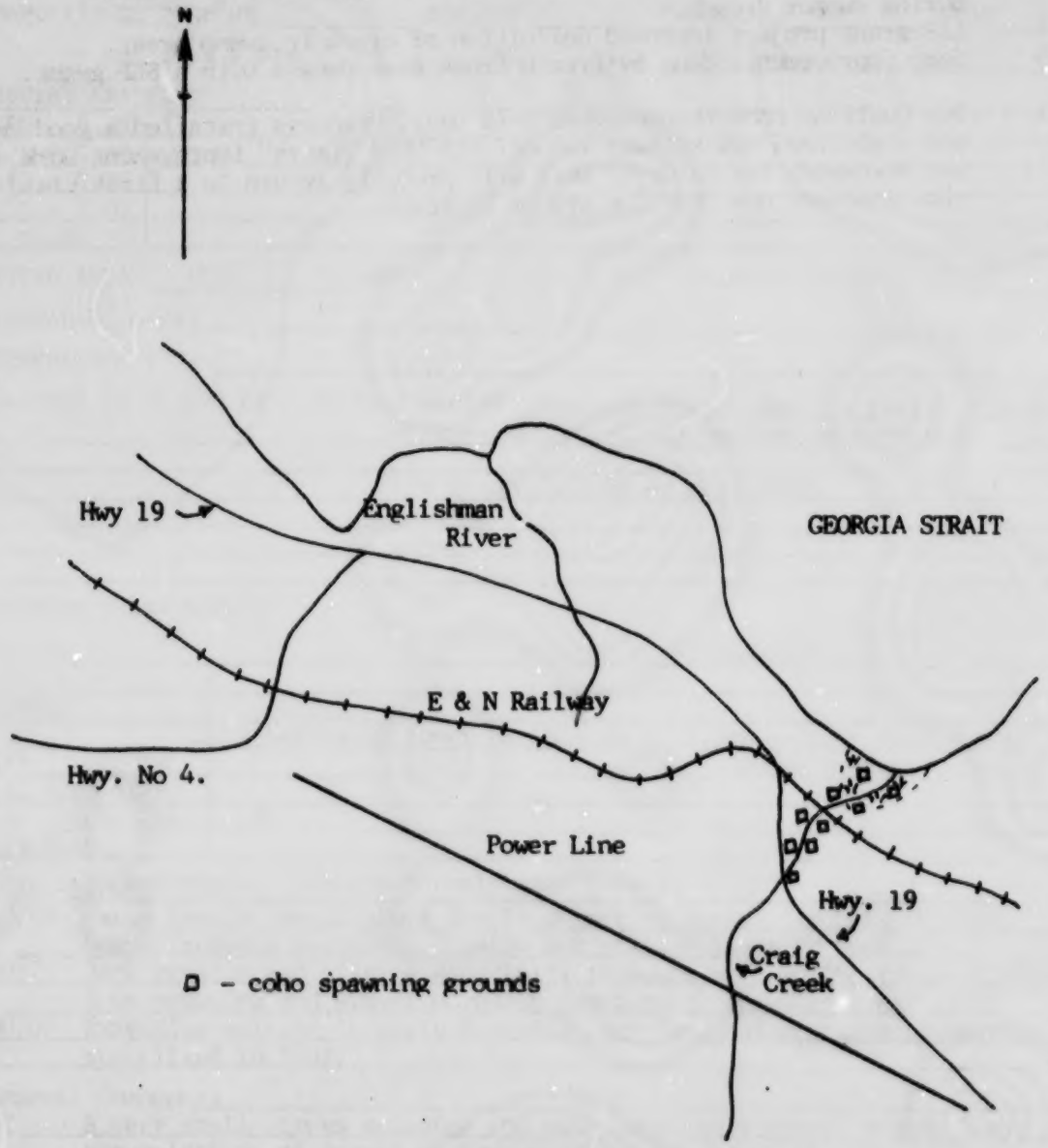
continuation

CRAIG CREEK

1973 Extensive landclearing at headwaters has aggravated low flows during summer draughts.
1974 LIP grant project improved definition of creek in swamp areas.
1979 Some improvements done by French Creek Boat Owners with a SEP grant.

1981 Big Qualicum coho transplanted this year. Highways installed a good culvert and stabilized new highway run-off.SEP "Old Timers" improvement work at the Northwest Bay culvert. This will probably return to a first class coho producer now that the system is stable.

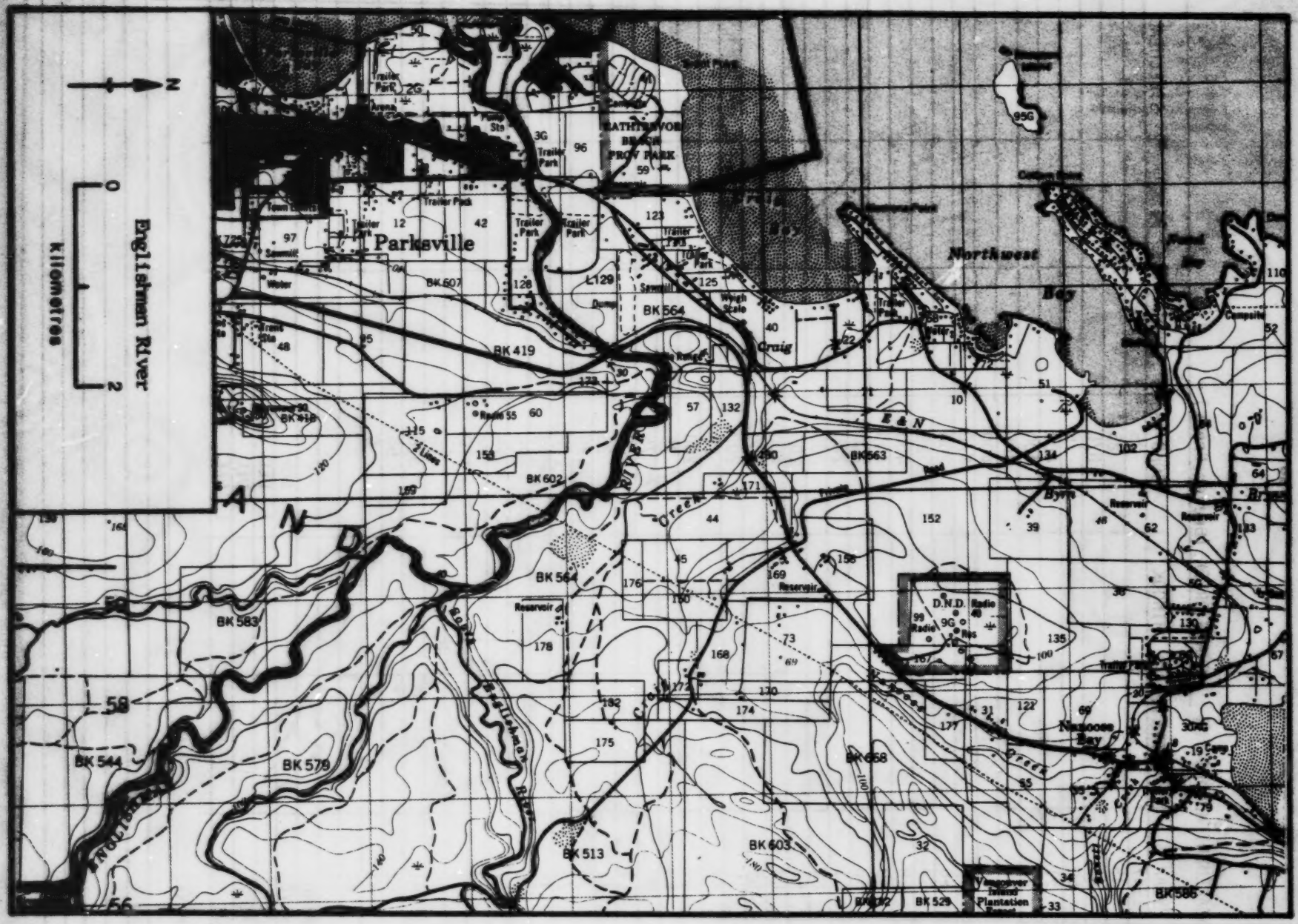
Sketch of Craig Creek, 1968

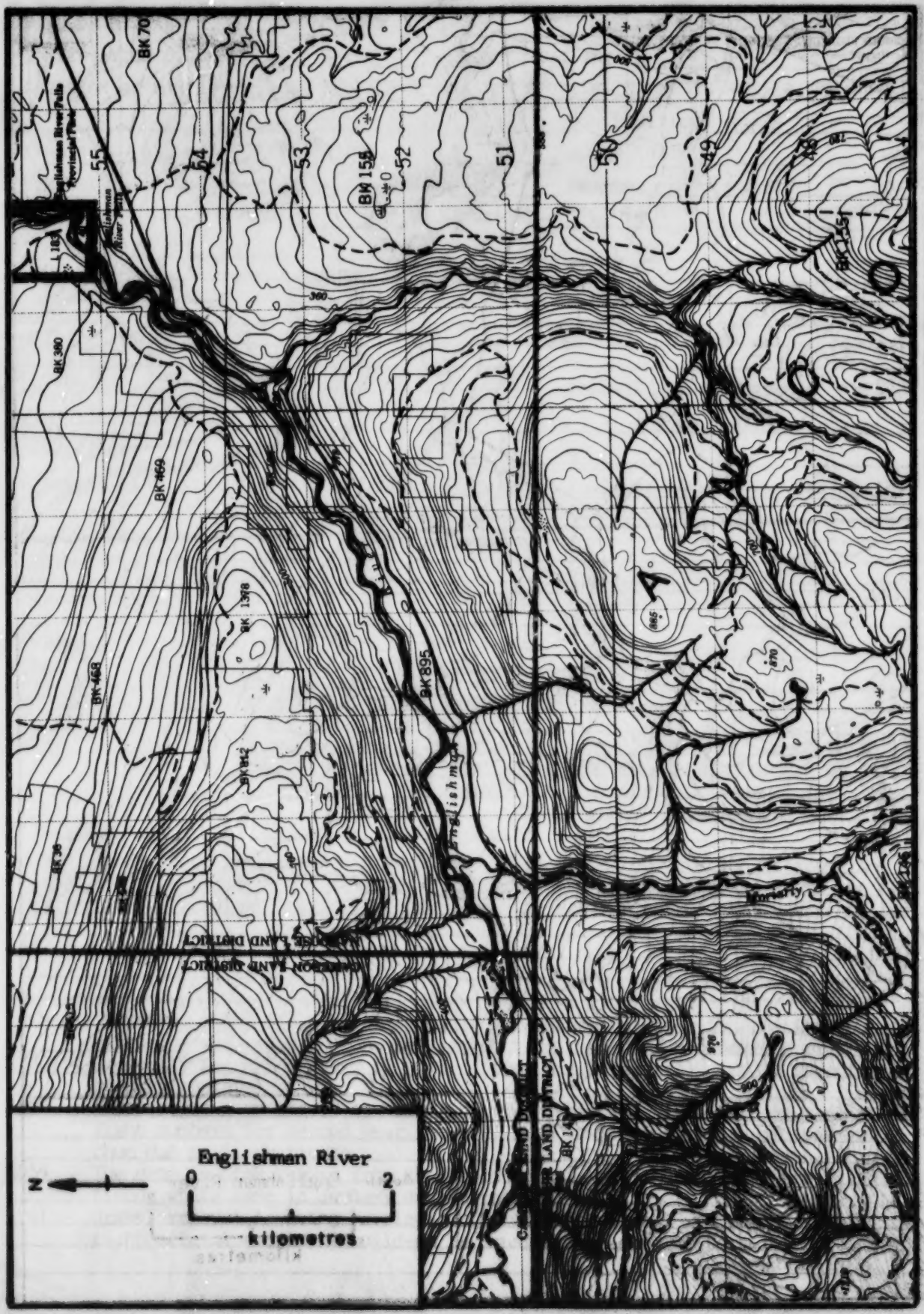


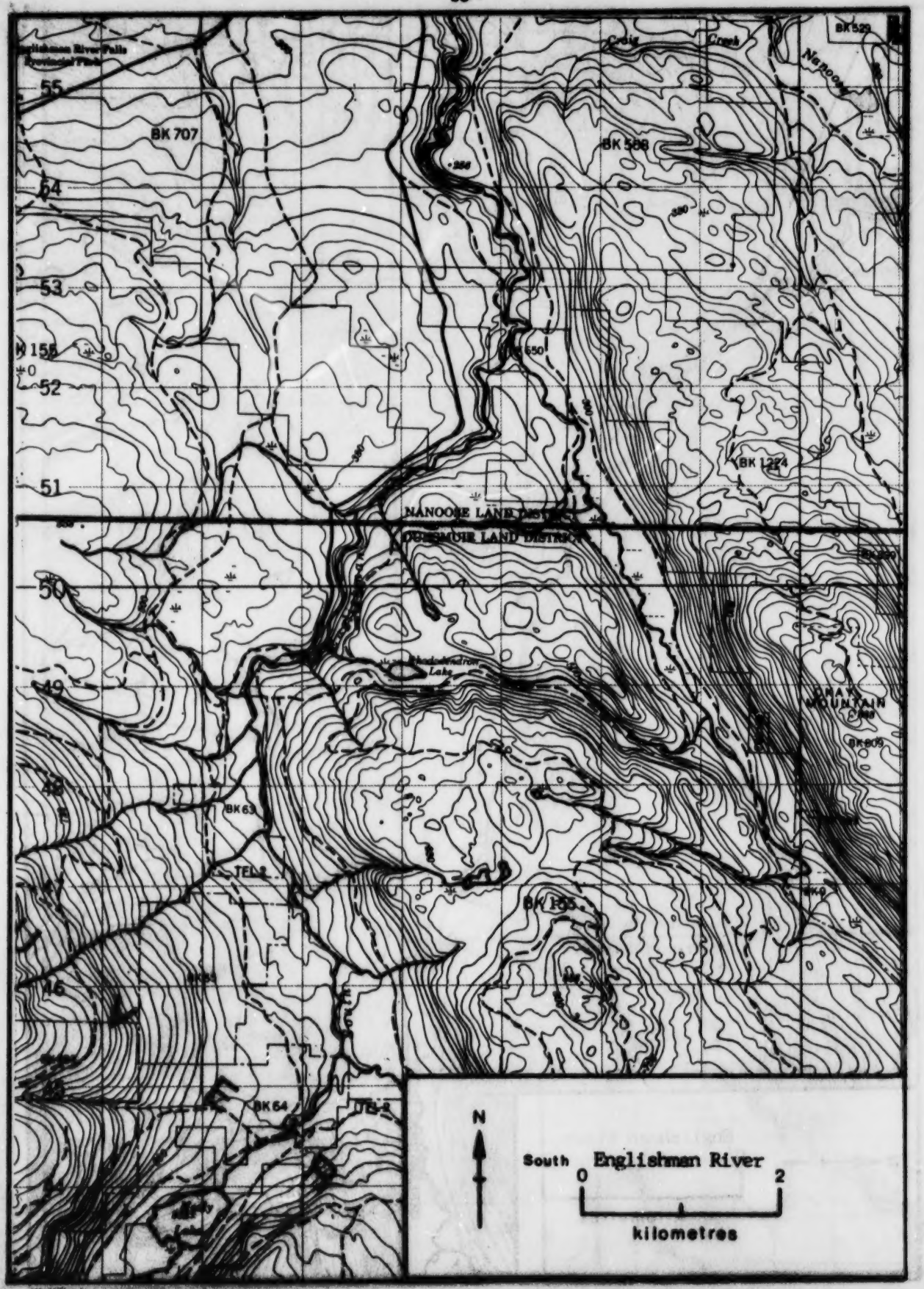
ESCAPEMENT RECORD FOR CRAIG CREEK (Beaver Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			25			
48			25			
49			N/O			
50			75			
51			400			
52			400			
53			400			
54			400			
55			N/O			
56			200			
57			25			
58			400			
59			400			
60			200			
61			200			
62			200			
63			200			
64			400			
65			200			
66			200			
67			25			
68			200			
69			75			
70			75			
71			200			
72			25			
73			25			
74			200			
75			25			
76			25			
77			25			
78			25			
79			10			
80			10			
81			N/O			
82			56			
83			6			
84						
85						
TIMING:						
ARRIVE			NOV			
START			E DEC			
PEAK			DEC			
END			L DEC			

REMARKS


N
0
2
kilometres
English River
Parksville
Northwest
Bay
Craig
Nanoose
Bay
BK 419
BK 564
BK 607
BK 602
BK 563
BK 583
BK 544
BK 579
BK 513
BK 603
BK 658
BK 529
BK 586
L129
E & N
D.N.D.
Radio
Reservoir
Trailer Park
Vancouver Island Plantation Forest
58
56


Englishman River
0
2
kilometres
N
Englishman River Falls Provincial Park
BK 70
BK 155
BK 380
BK 469
BK 468
BK 1378
BK 895
BK 842
BK 36
BK 35
BK 1455
BK 14
Englishman
Kennedy
NANAIMO LAND DISTRICT
COMOX LAND DISTRICT


Englishman River Falls Provincial Park
Craig
Creek
Nanoose
BK 523
BK 707
BK 588
55
54
53
52
51
50
49
48
47
46
45
BK 1224
NANOOSE LAND DISTRICT
QUEMOIR LAND DISTRICT
Rhododendron Lake
GRAY MOUNTAIN
BK 809
BK 63
TEL 2
BK 64
TEL 3
N
South
Englishman River
0
2
kilometres

NAME OF STREAM ENGLISHMAN RIVER RAB No. 92-3800

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows N. into Straits of Georgia, E. of Parksville, Nanoose Dist.

POSITION 49 124 SE.

LENGTH 16 km WIDTH 39.5 m DRAINAGE _____ km²

COMPOSITION: BEDROCK 8 BOULDER 69 COARSE 12 FINE 5

SILT & SAND _____ UNCLASSIFIED pools 6

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA 637540 m² SPAWNING AREA 108680 m²

DISCHARGE (m³/s) MAX 387 Dec. 17, 1979 MIN 1.16 Aug 29, 1971
Near Parksville

TEMPERATURE (°C)

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable falls at 16 km — series of steep rock falls and cataracts in canyon area.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	- few creek sockeye in pool below falls
CHINOOK	
COHO	- in upper reaches, Morrison Creek and South Fork — up to falls
CHUM	- generally in lower end, at highway and on numerous gravel bars.
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM From aerial observation it appears that suitable spawning and rearing conditions exist for eight miles above the falls. However, due to clear logging in some areas the environment may be endangered for salmon production.

GENERAL REMARKS A bad flash stream. Subject to excessive water fluctuation, but extensive watershed compensates somewhat in providing prolonged spring runoff.

1952/54 Gradually improving water flow conditions are being reflected in steadier production levels.

1955 First sockeye on record observed in stream this year. 1956 Sockeye ran in light numbers for second year running. 1958 Considerable loss of spawn of chum due to flash floods.

1959 The drop in pink return from the brood year is attributed to severe flash floods which came in January and February of 1958.

1961 Gravel removal is being carried out by contractor in lower reaches; this is beneficial as gravel build-up is considerable on some bars.

continued...

continuation

ENGLISHMAN RIVER

1966 Chum run showed improvement. Pinks returned after nil showing in 62 and 64. Seeding of all salmonids was drastically reduced by December flood levels.

1970/79 This river is under stress due to recreational use by the public, large scale logging activities throughout the watershed and land developments.

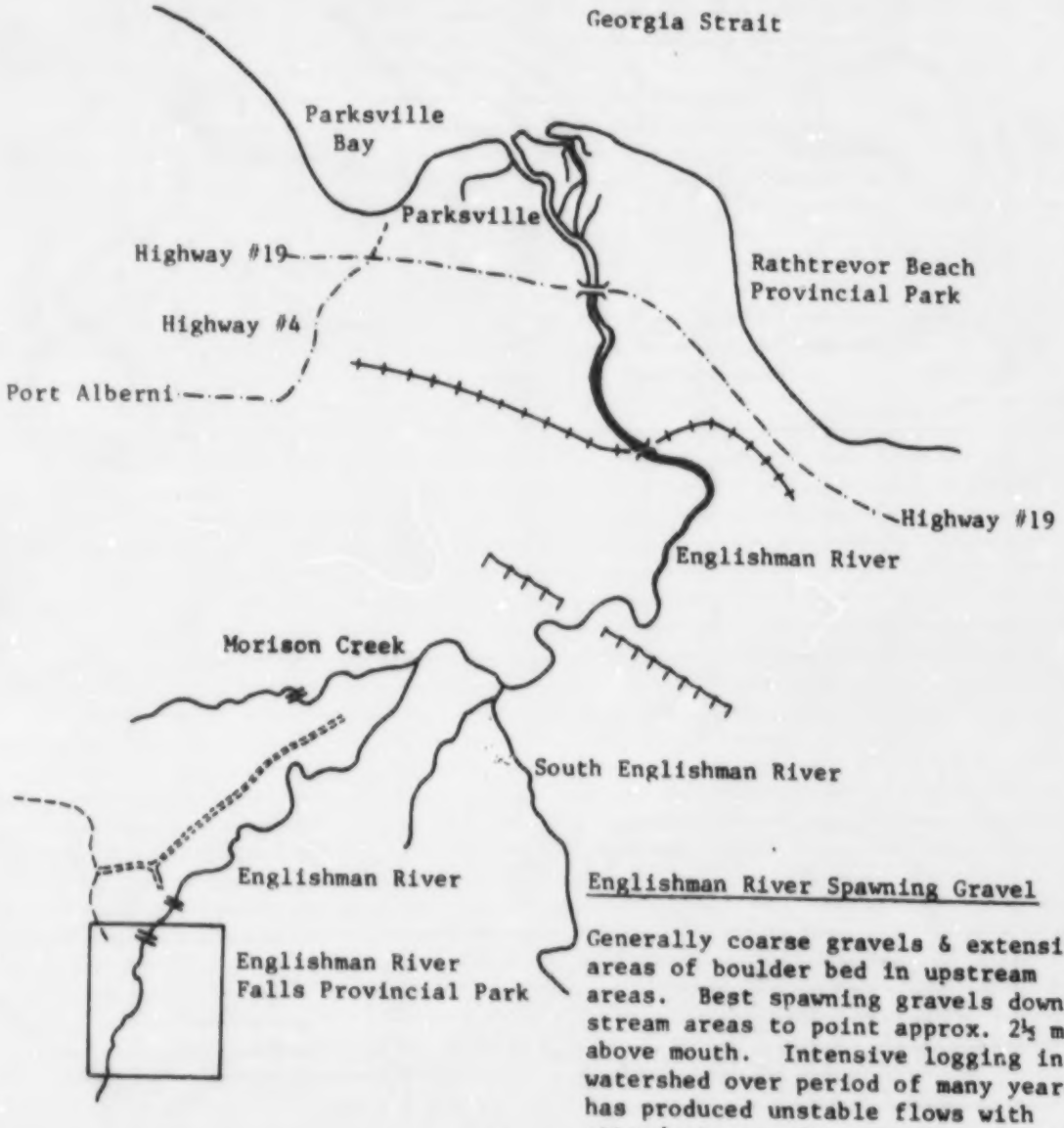
1978 Over subscription of water licences and under pressure from the town of Parksville wishing to obtain a further million gallons plus per day.

1981 Drilling streamside wells this year to supplement Parksville water supply. This system will never be a good producer unless some form of flow control is instituted, such as damming above falls.

Some overcrowding — egg digging by late run chum (77) some overlapping by chum and pinks.(80/83)

Most common predator black bear — heavy on chum.

Sketch of Englishman River, 1968



Englishman River Spawning Gravel

Generally coarse gravels & extensive areas of boulder bed in upstream areas. Best spawning gravels downstream areas to point approx. 2½ mi. above mouth. Intensive logging in watershed over period of many years has produced unstable flows with attendant scouring, erosion, flooding & drought environment in summer.

ESCAPEMENT RECORD FOR ENGLISHMAN RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	N/0	N/0	1,500	35,000	N/0	3,500
48	N/0	N/0	500	10,000	N/0	1,000
49	N/0	N/0	1,200	7,000	N/0	800
50	N/0	N/0	1,500	7,500	3,500	750
51	N/0	N/0	750	7,500	75	750
52	N/0	N/0	1,500	7,500	1,500	1,500
53	N/0	N/0	750	15,000	200	1,500
54	N/0	N/0	1,500	15,000	750	1,500
55	25	N/0	750	1,500	750	UNK
56	25	N/0	1,500	750	400	1,500
57	25	N/0	3,500	7,500	3,500	1,500
58	25	N/0	750	15,000	400	1,500
59	1	N/0	750	3,500	1	1,500
60	25	25	400	3,500	200	1,500
61	25	25	750	3,500	25	750
62	N/0	N/0	750	3,500	N/0	750
63	N/0	25	750	750	2	1,500
64	25	25	1,500	1,500	N/0	UNK
65	61	75	1,500	1,500	N/0	750
66	25	25	1,500	7,500	200	UNK
67	20	75	285	500	N/0	UNK
68	75	115	1,000	6,000	100	UNK
69	25	75	400	7,500	25	UNK
70	25	75	1,500	3,500	75	UNK
71	25	75	1,500	3,500	25	UNK
72	25	75	400	15,000	25	UNK
73	75	75	750	7,500	25	UNK
74	25	25	1,500	5,000	25	UNK
75	25	75	400	750	75	UNK
76	25	25	750	1,500	25	UNK
77	25	25	1,500	1,500	25	-
78	300	75	1,500	6,000	10	-
79	-	-	1,200	4,000	-	-
80	-	-	300	1,000	100	-
81	-	N/0	300	400	-	-
82	18	14	1,000	2,500	3	-
83		UNK	UNK	200		
84						
85						
TIMING:						
ARRIVE	E SEPT	OCT	OCT	OCT	E OCT	
START	L SEPT	OCT	OCT	OCT	E OCT	
PEAK	OCT	OCT	L NOV	OCT	L OCT	
END	OCT	M NOV	E JAN	L OCT	L NOV	

REMARKS

LAMBERT
CHANNEL
DENMAN ISLAND
Fillongley Creek
Chinaman Lake
Community Centre
Water
Bee Flat
Fanny Bay
SOUND
HAYNES
N
Fillongley Creek
0
2
kilometres

NAME OF STREAM (Fillongley Creek) RAB No. 92-3100-130

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows SE. into Lambert Channel, E. side of Denman Island, Nanaimo. Dist. POSITION 49 124 NW.

LENGTH 2.25 km WIDTH _____ m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Log jams, beaver dams and debris
passable rapids through shale section 1km upstream

1970 Winter Works Program — stream clearance to allow fish passage.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout the system
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions:

1970 Gradient is very low throughout 80% of the stream and rapid section through broken shale and boulders.

1971/72 Silting and tidal sludge in lower 1/4 mile. Upper tributaries badly silted and mainstem through swamp silted.

1973/75 Dry in lower section during summer. Good fall flows with some flooding

1980/81 Light silting in upper areas — minimal erosion and scouring — low flows in summer.

GENERAL REMARKS

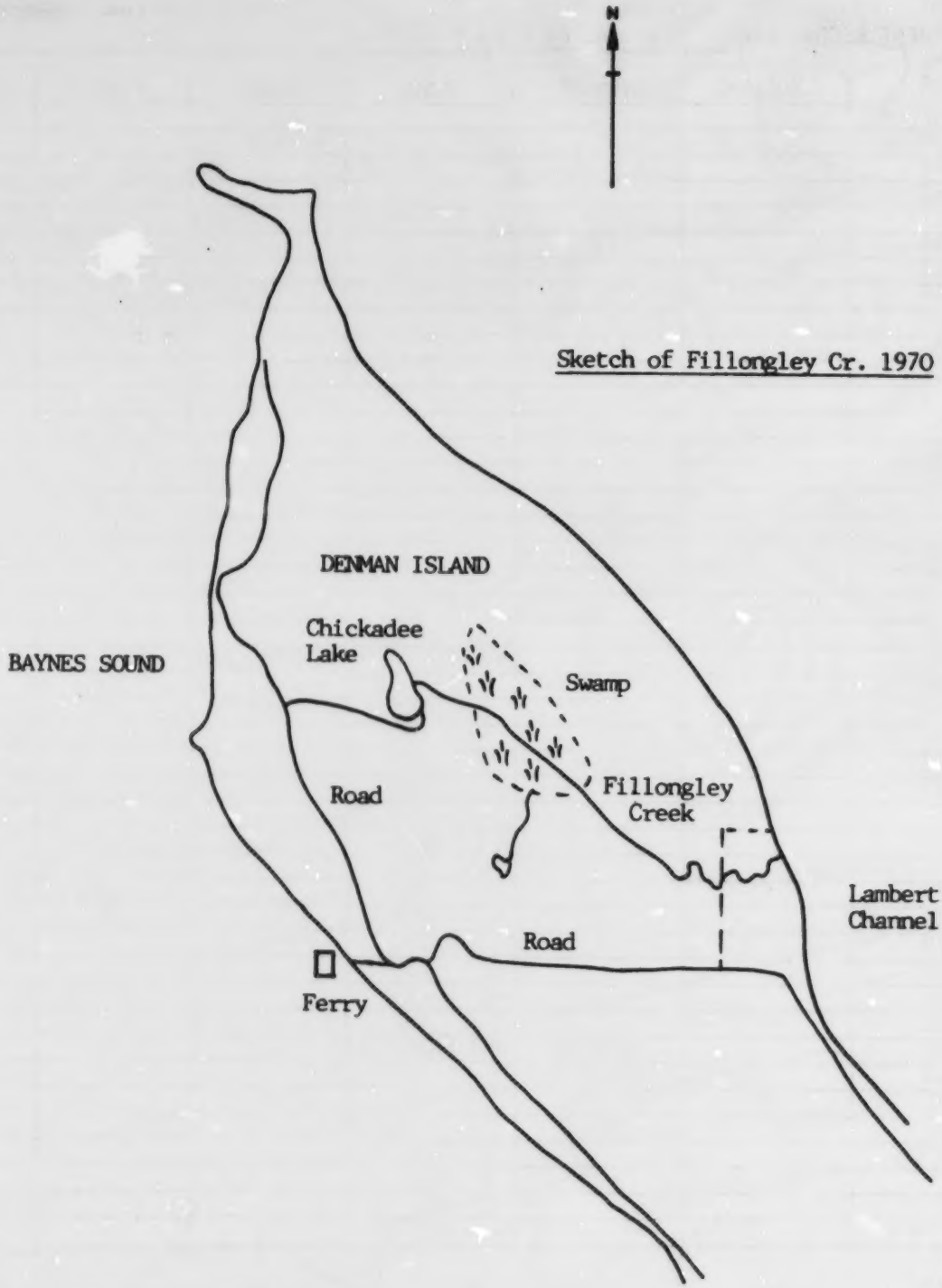
1970/79 Fry salvage carried out each summer. Fry transplanted in Chickadee Lake and swamp pond on South trib utary of Fillongley Creek

1978 Work party was engaged in extensive stream clearance.

1979 Fry salvage conducted using a large beaver pond.

1980 Fry survival is limited by low summer flows.

Predation from birds and public.



Sketch of Fillongley Cr. 1970

ESCAPEMENT RECORD FOR (Fillongley Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68			NO RECORDS PRIOR TO 1970			
69						
70			150			
71			600			
72			150			
73			150			
74			350			
75			150			
76			150			
77			200			
78			200			
79			100			
80			150			
81			25			
82			UNK			
83			NOT INSPECTED			
84						
85						
TIMING:						
ARRIVE			L OCT			
START			E NOV			
PEAK			L NOV			
END			DEC			

REMARKS

QUALICUM BEACH
VANCOUVER
ESQUIMALT AND NANAIMO
NEWCASTLE LAND DISTRICT
Hilliers
Qualicum Airfield
E & N
PKB Creek
Morningstar
French Creek
N
French Creek
0
2
kilometres

NAME OF STREAM FRENCH CREEK RAB No. 92-3700

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Str. of Georgia W. of Parksville, Nanoose Dist.

POSITION 49 124 SE.

LENGTH 15 km WIDTH 12 m DRAINAGE _____ km²

COMPOSITION: BEDROCK 19 BOULDER 19 COARSE 20 FINE 20

SILT & SAND _____ UNCLASSIFIED pools 22

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m² SPAWNING AREA _____ m²

DISCHARGE (m³/s) MAX Unknown MIN 0 Aug. 10, 1969

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable rock falls on West fork 11 km from mouth

Small falls at 5.50 km, small fish ladder put in in 1961, works well.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- generally in upper reaches and feeder streams
CHUM	- in lower reaches
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions: 1950/59 Less than 5% erosion and silting — no significant scouring. W/L very low during summer months. Fish ascend approx mid. Oct.

1960/69 Seasonal fluctuations in water levels. 1966 reported unusually high flows resulting in severe bank undercutting in lower reaches.

1972/73 25-30% erosion and bank undercutting, severe scouring during late Dec. and January floods.

1980 Subject to flash flooding — extensive erosion and silting along most of stream. Lower reaches show extensive gravel movement.

1982/83 Extensive erosion and silting in the B.C. Forest Products area where clear cutting and access roads are a problem.

General comments:

1950/59 Heavy fry salvage operations during summer months.

1954/55 Coho were able to ascend most of stream within 24 hours of entering because of work carried out by Dept. technician during summer.

1965 Fish ladder utilized by migrating coho adults.

1960/69 Fry salvage operations.

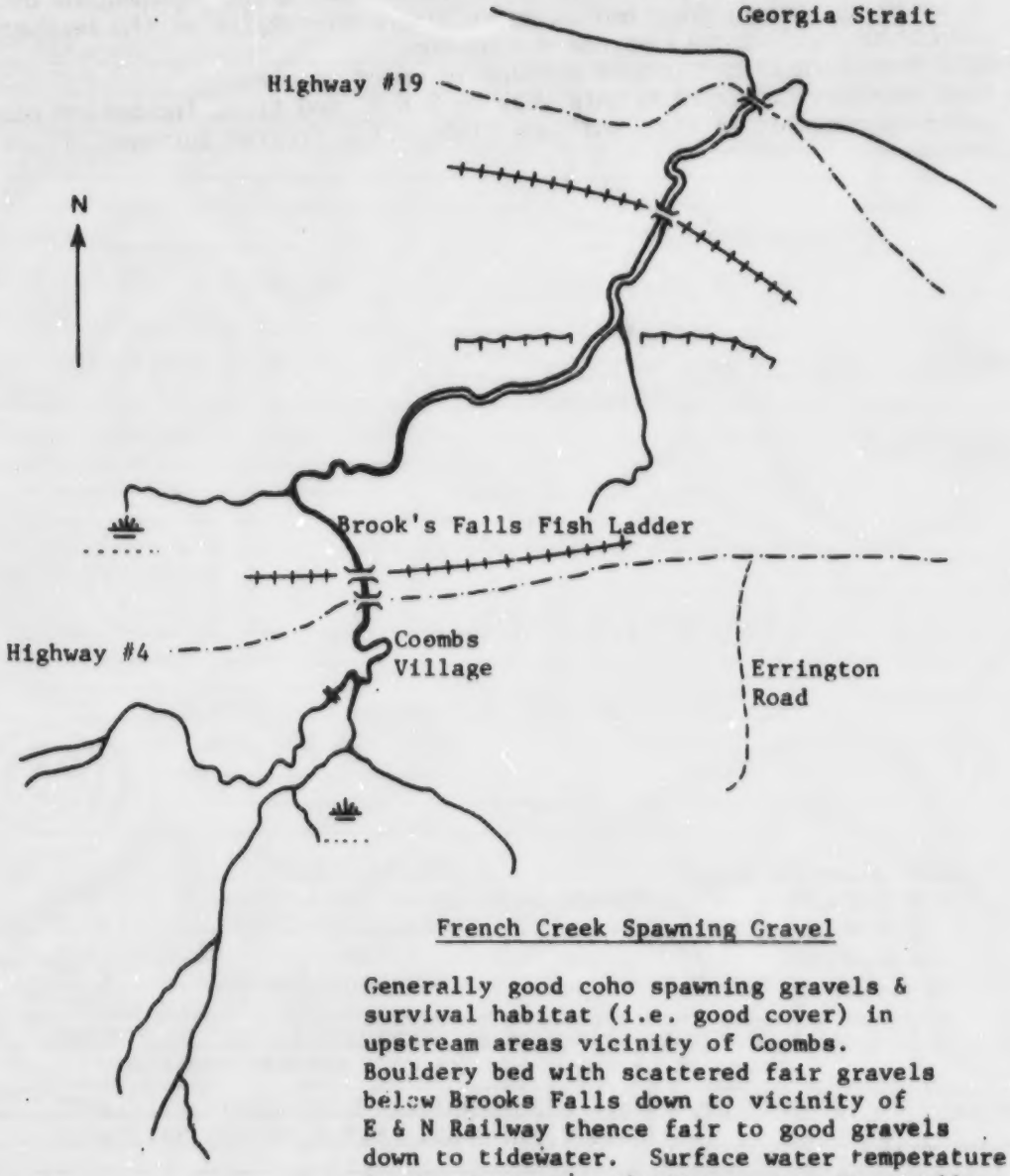
continued.....

continuation

FRENCH CREEK

1966 Severe environmental stresses occurred in December due to abnormally high flows with attendant scouring and erosion.
1968 B.C.Forest Products have Tree Farm Licence in water shed and good co-operation is received in matters affecting salmon.
1970/79 Encroachment of civilization will prevent any great populations of fish to build up. Over subscribed in water licences. Logging at the headwaters will undoubtedly effect this stream's coho run.
1980 BCFP Tree Farm clearing more acreage in upper reaches.
1982 Mini hatchery constructed this year by S.E.P. and first incubation of eggs under sponsership of Fish and Game Club. U.I.C.Program surveyed entire water system.

Sketch of French Creek, 1968



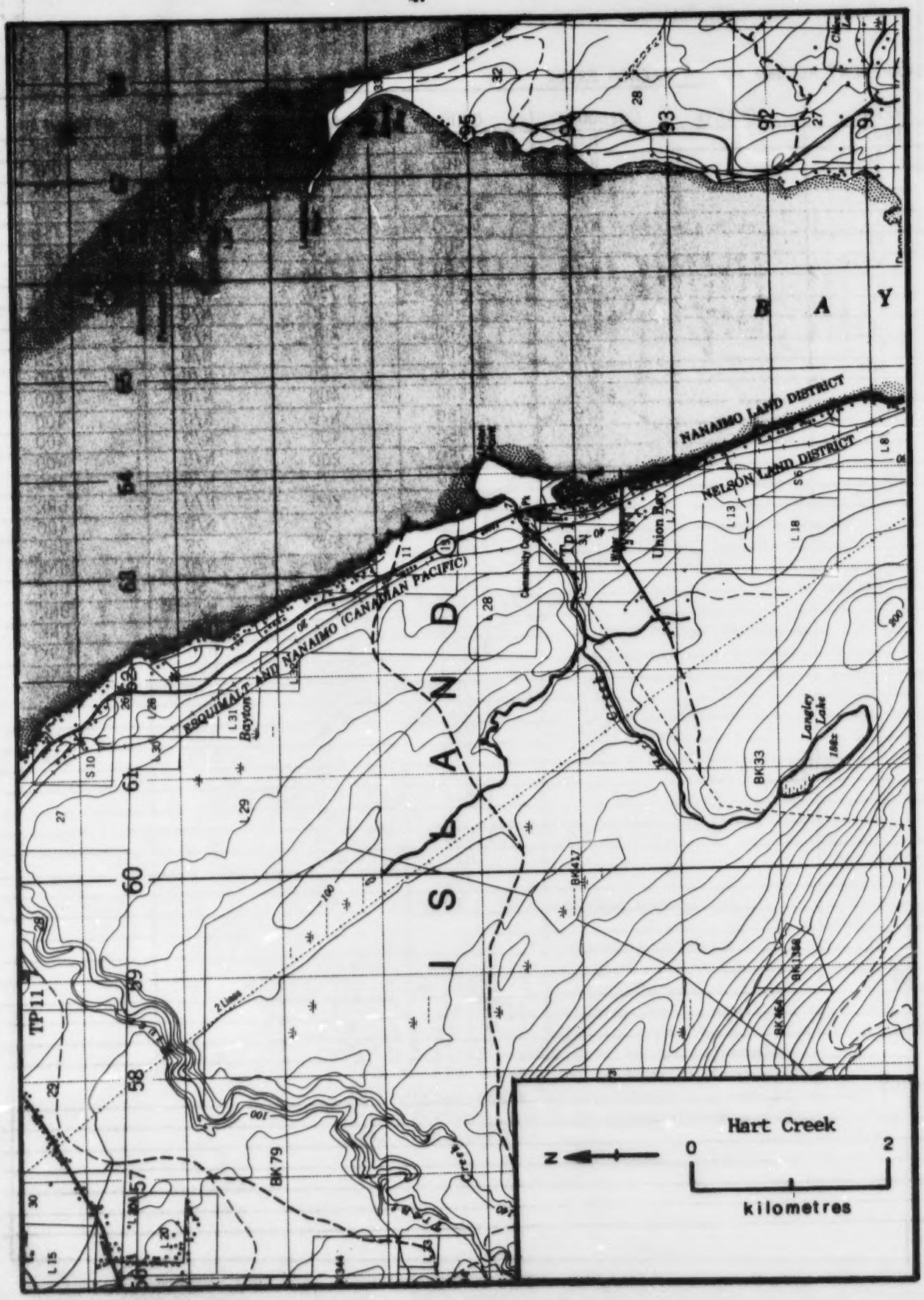
French Creek Spawning Gravel

Generally good coho spawning gravels & survival habitat (i.e. good cover) in upstream areas vicinity of Coombs. Bouldery bed with scattered fair gravels below Brooks Falls down to vicinity of E & N Railway thence fair to good gravels down to tidewater. Surface water temperature in upstream areas during summer are usually 2 - 3 degrees cooler than downstream areas near Highway #19.

ESCAPEMENT RECORD FOR FRENCH CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947		N/O	750	7,500	750	UNK
48		N/O	400	7,500	N/O	UNK
49		N/O	750	750	N/O	UNK
50		25	3,500	750	N/O	200
51		N/O	7,500	750	N/O	750
52		N/O	7,500	25	N/O	750
53		N/O	7,500	750	N/O	750
54		N/O	3,500	750	N/O	750
55		N/O	1,500	200	N/O	UNK
56		N/O	3,500	200	N/O	400
57		N/O	3,500	3,500	N/O	750
58		N/O	3,500	750	N/O	400
59		N/O	3,500	400	N/O	400
60		N/O	750	N/O	N/O	400
61		N/O	750	400	N/O	400
62		N/O	750	200	N/O	400
63		N/O	750	75	N/O	400
64		N/O	3,500	200	N/O	UNK
65		N/O	1,500	25	N/O	400
66		N/O	3,500	1,500	25	UNK
67		N/O	425	100	N/O	UNK
68		N/O	1,000	1,000	50	UNK
69		N/O	750	1,500	N/O	UNK
70		N/O	3,500	25	N/O	UNK
71		N/O	3,500	25	N/O	UNK
72		N/O	400	3,500	N/O	UNK
73		N/O	750	400	N/O	UNK
74		N/O	1,500	25	N/O	UNK
75		N/O	750	25	N/O	UNK
76		N/O	750	25	N/O	UNK
77			3,500	25	-	
78			1,850	250		
79			50	200		
80			1,000	50		
81			N/O	N/O		
82			700	2		
83			50	40		
84						
85						
TIMING:						
ARRIVE			L OCT	L OCT		
START			OCT	OCT		
PEAK			NOV	NOV		
END			L DEC	DEC		

REMARKS


B A Y
I S L A N D
NANAIMO LAND DISTRICT
NELSON LAND DISTRICT
ESQUIMALT AND NANAIMO (CANADIAN PACIFIC)
Bayton
Union Bay
Langley Lake
Hart Creek
TP11
BK79
BK33
BK417
N
0
2
kilometres

NAME OF STREAM HART CREEK (Washer Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Baynes Sound, N. of Union Bay, Nelson Dist.

POSITION 49 124 NW.

LENGTH _____ km WIDTH _____ m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable falls approx .8km. not surveyed

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	- lower reaches below highway
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions: Water levels extremely low to dry during summer — near flood stage in fall and winter.

1970/79 Slight erosion and silting

1980/81 Moderate scouring

1983 Considerable erosion and silting in lower 3.2 km.

GENERAL REMARKS 1970 First report. Washer Creek is a minor system whic h supports small numbers of coho and chum. This system is reported to have a steelhead run every winter.

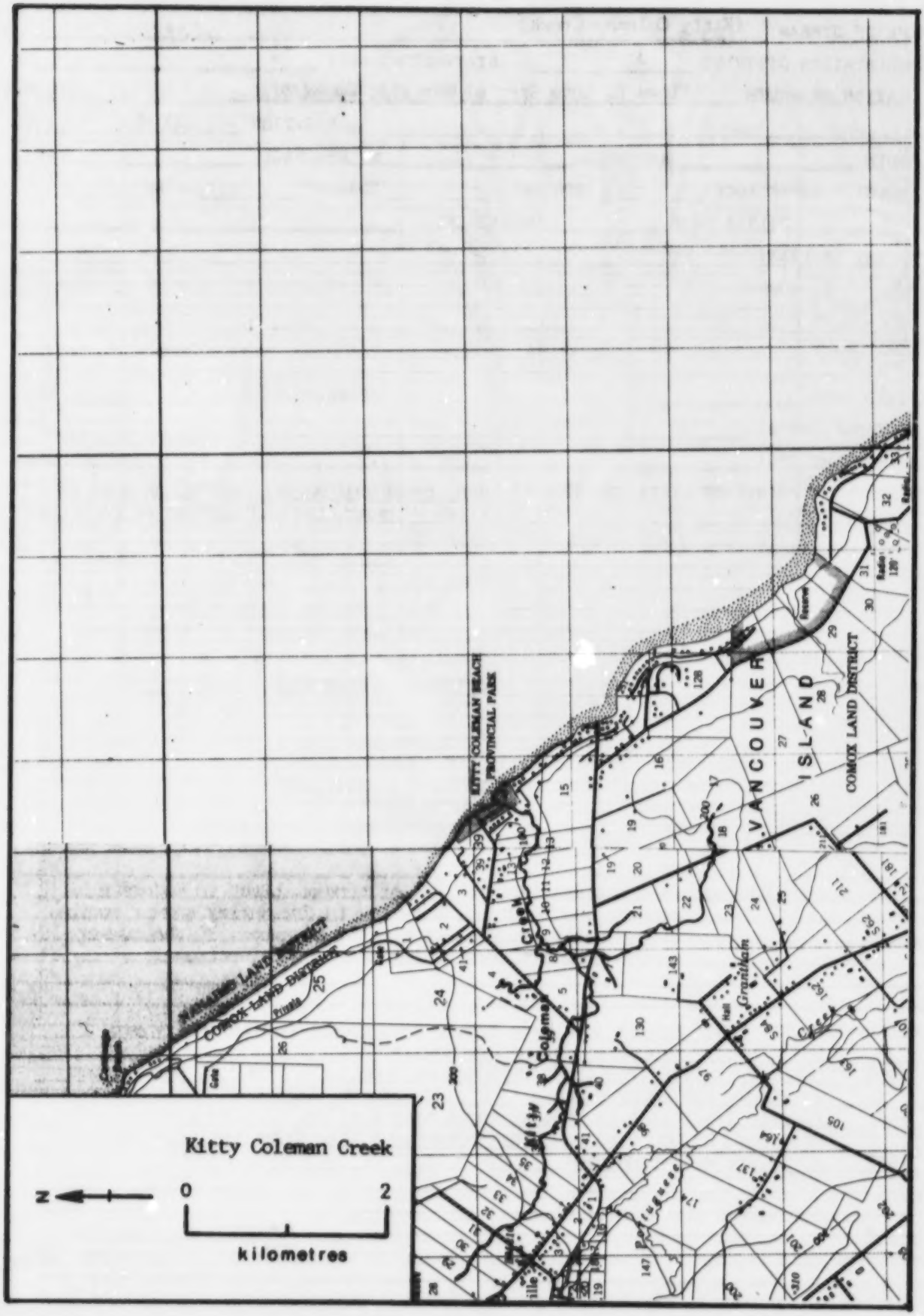
1972 Stream obstruction report filed in the fall of 1970 regarding the old wood flume below highways bridge. No action taken yet.

1983 This stream was decimated by past coal mining activity and water diversions. Suggest rehabilitation as there is valuable under-utilized habitat.

ESCAPEMENT RECORD FOR HART CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68			NO RECORDS PRIOR TO 1970			
69						
70			75	50		
71			150	75		
72			75	25		
73			50	25		
74			75	N/O		
75			50	UNK		
76			30	UNK		
77			25	3		
78			50	-		
79			50	-		
80			300	20		
81			100	10		
82			25	-		
83			N.O.	N.O.		
84						
85						
TIMING:						
ARRIVE			M OCT	L NOV		
START			L OCT	L NOV		
PEAK			L NOV	L DEC		
END			DEC	JAN		

REMARKS


KITTY COLEMAN BEACH PROVINCIAL PARK
VANCOUVER ISLAND
COMOX LAND DISTRICT
NANAIMO LAND DISTRICT
COMOX LAND DISTRICT
Kitty Coleman Creek
N
0
2
kilometres

NAME OF STREAM (Kitty Coleman Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Str. of Georgia, Comox Dist.

POSITION 49 125 NE.

LENGTH _____ km WIDTH _____ m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Logs, brush and beaver dams along most of stream — monitored and removed as required.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions: Very low gradient for 85% of stream. Light to moderate erosion and scouring. Very low to dry during summer months. Fish usually ascend during early November. In the summer months coho fry survive in beaver ponds upstream.

GENERAL REMARKS 1951 Beaver jams have formed very good pools where fry are protected during dry spells.

1958 Coho fry salvage required during summer months — numerous beaver dams in middle and upper reaches.

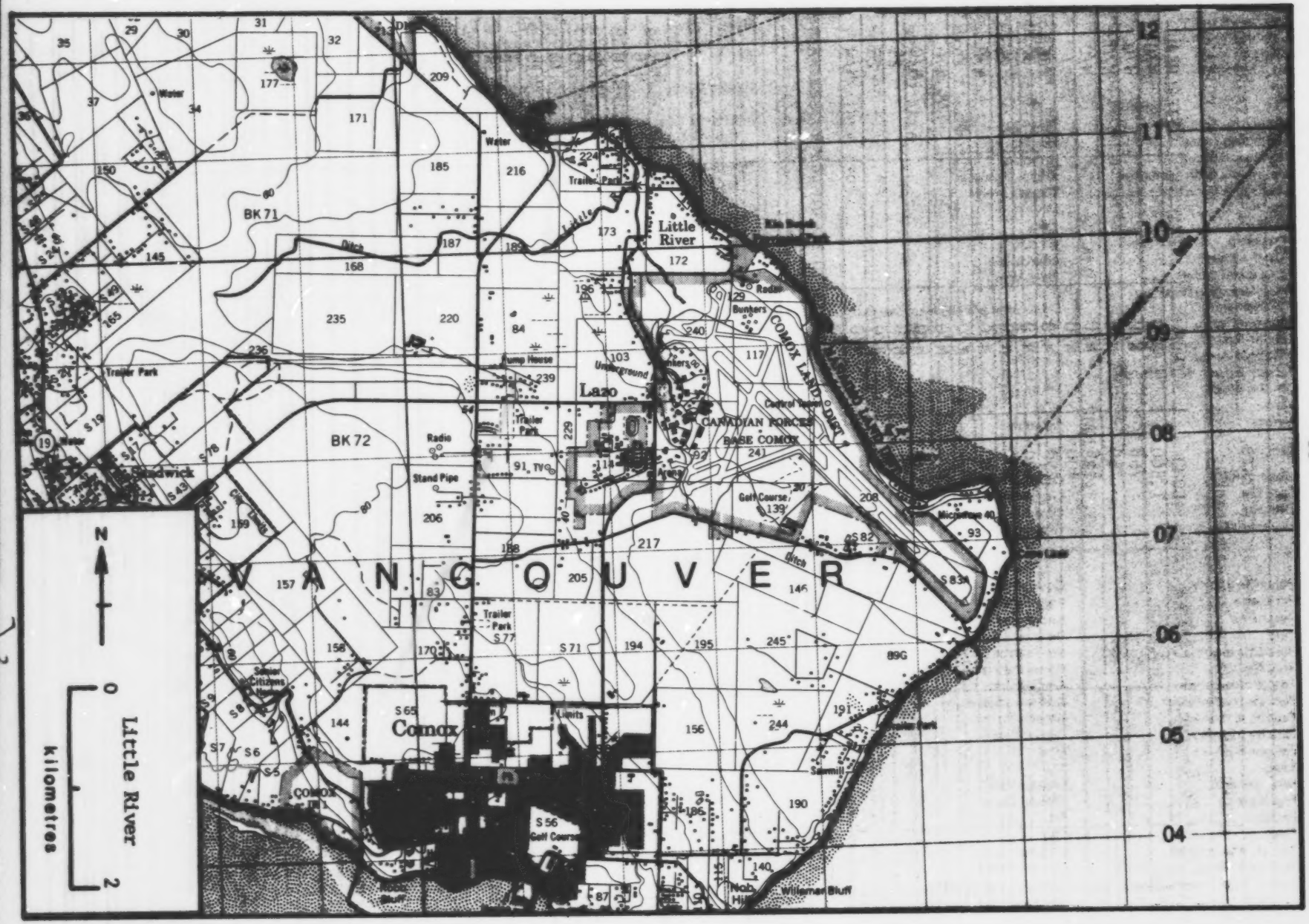
1981 Pacific Trollers Assn. has an incubation facility located approx 3.2 km upstream. 25,000 eyed coho eggs given to P.T.A. from Puntledge Hatchery.

1983 S.E.P.Project abandoned.

ESCAPEMENT RECORD FOR (Kitty Coleman Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			1,500	N/O		N/O
48			750	N/O		N/O
49			750	N/O		N/O
50			750	N/O		N/O
51			400	N/O		75
52			200	N/O		75
53			400	N/O		25
54			400	N/O		25
55			200	N/O		N/O
56			200	N/O		25
57			200	N/O		N/O
58			200	N/O		N/O
59			25	N/O		25
60			25	N/O		25
61			25	N/O		N/O
62						
63						
64						
65			NO RECORDS FOR 1962 - 1969			
66						
67						
68						
69						
70			200	25		N/O
71			300	N/O		N/O
72			200	N/O		N/O
73			100	N/O		N/O
74			300	N/O		N/O
75			100	N/O		N/O
76			75	N/O		N/O
77			150	-		-
78			75	-		-
79			75	25		-
80			100	-		-
81			75	-		-
82			250	-		-
83			100			
84						
85						
TIMING:						
ARRIVE			M OCT			
START			E NOV			
PEAK			L NOV			
END			DEC			

REMARKS


VANCOUVER
Little River
Comox
Lazo
BK 71
BK 72
CANADIAN FORCES BASE COMOX
COMOX LANDING DIST.
Golf Course
Trailer Park
Radio
Stand Pipe
Pump House
Underground
Bunkers
Radar
Sandwick
Courtenay
Sawmill
Limits
Water
Ditch
N
0
2
kilometres
Little River

NAME OF STREAM LITTLE RIVER

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Str. of Georgia, NW. of Kye Bay, Comox Dist.

POSITION 49 124 NW.

LENGTH 1.6 km WIDTH 4 m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND 75 UNCLASSIFIED _____

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Numerous beaver dams, mostly in middle and upper reaches -- removed as necessary.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout to upper reaches
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions: 1950/59 Water levels very low from Jul. to early Nov. otherwise normal.

1960/69 Only slight erosion and silting. 1965 reported 15%. 1968 Above normal water levels early in fall allowed fish to reach uppermost limits of system.

1970/79 Heavy floods caused some scouring, but was beneficial in removing accumulated silt behind beaver dams.

1980/83 Silting in lower reaches, erosion not a problem. Moderate scouring due to late December floods. 1983 Significant silting and erosion in lower reaches.

General comments:

1950 Very good spawning ground along entire stream. Water always discoloured.

1961 Too much drain on this stream during dry months. RCAF Station, farmers, householders and summer cottagers all draw water from watershed.

1969 This stream drys up every summer due heavy irrigation and Comox Airbase domestic usage. Upper swamp area is maintaining run.

continued.....

continuation

LITTLE RIVER

1970 Massive stream improvement work carried out by Winter Works crew. Old growth fir logs and beaver dams had caused a severe build up of silt — now much alleviated. Parkin Logging removed fifty old logs and snags from stream bed. In future logging company will bridge the stream and not haul timber across stream bed.

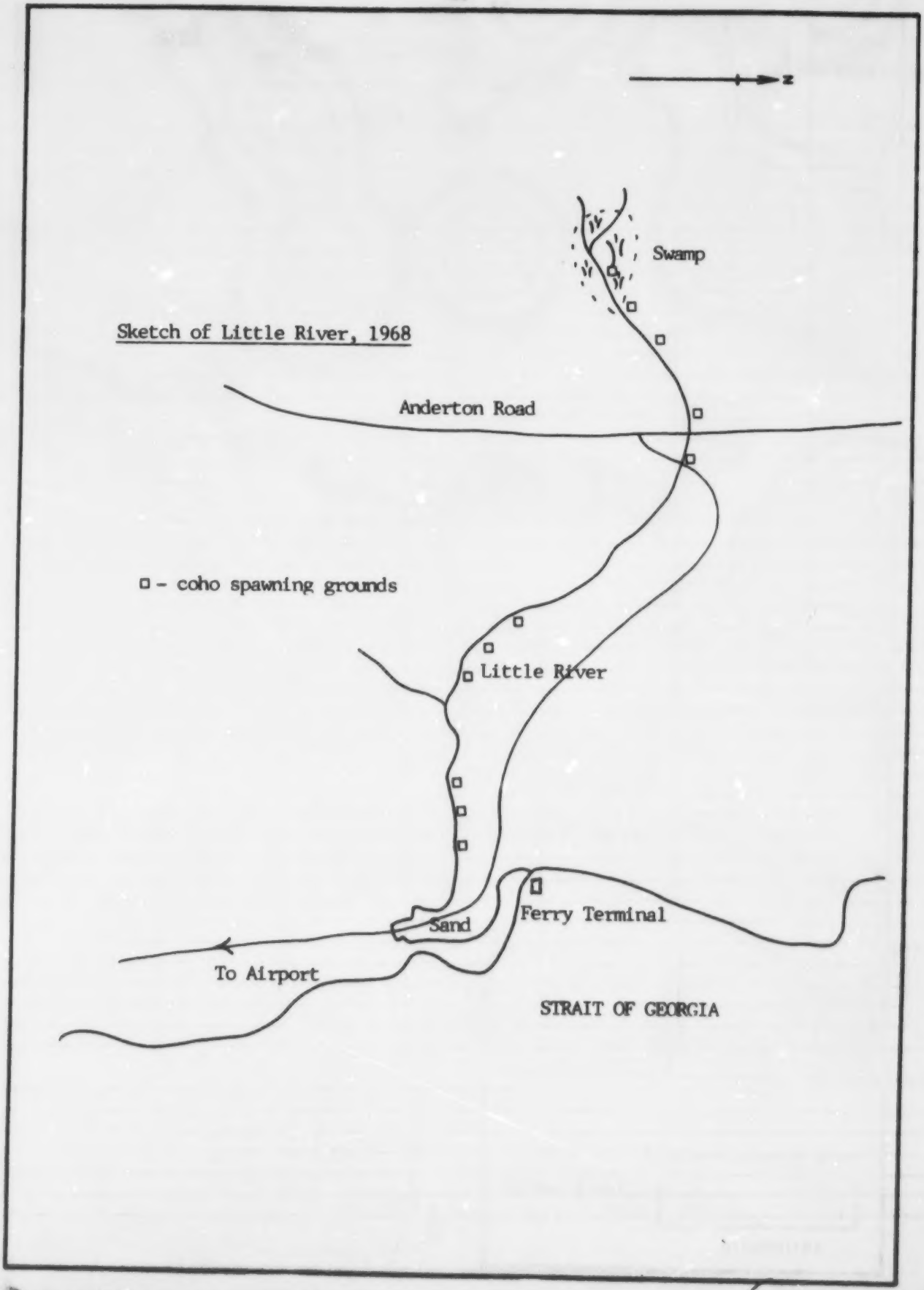
1976 Beaver Meadow Farms continued to co-operate in sharing available water so that flows were maintained throughout the year. Availability of Regional District water in 1977 will alleviate critical dry periods if Beaver Meadows Farm applies and uses Comox Lake water for their operations.

1978/79 Water is available from Regional District but no application has been made by Beaver Meadows Farm. Farms installed a system of drains to adjacent ditches resulting in faster and greater amount of run-off. Fertilizer is seeping through the soil and into the drains causing a sewer like smell downstream.

1981 Agriculture and urban development in the mid and upper reaches continue to create extreme flooding in the lower end. Water storage facilities should be incorporated into all urban development plans to alleviate this problem.

1983 Development has abated this year and a flood control survey and study is currently underway.

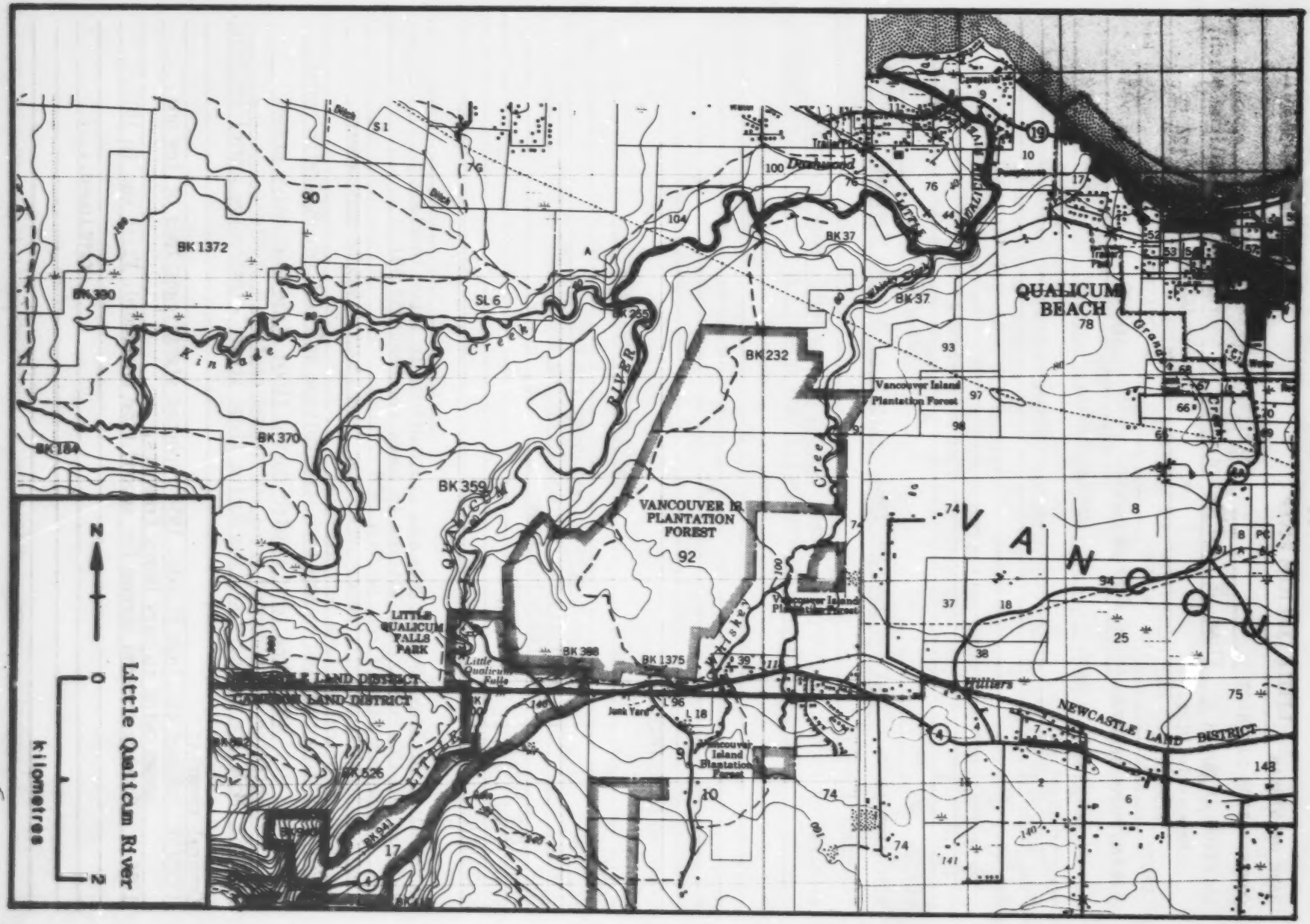
Predation : Bears, birds and juveniles a real problem in lower reaches.


N
Swamp
Sketch of Little River, 1968
Anderton Road
□ - coho spawning grounds
Little River
Sand
Ferry Terminal
To Airport
STRAIT OF GEORGIA

ESCAPEMENT RECORD FOR LITTLE RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			1,500			
48			750			
49			750			
50			750			
51			400			
52			750			
53			750			
54			400			
55			200			
56			400			
57			200			
58			400			
59			400			
60			200			
61			200			
62			200			
63			200			
64			400			
65			400			
66			400			
67			75			
68			150			
69			75			
70			350			
71			350			
72			125			
73			200			
74			500			
75			200			
76			125			
77			375			
78			350			
79			75			
80			300			
81			250			
82			500			
83			400			
84						
85						
TIMING:						
ARRIVE			L OCT			
START			E NOV			
PEAK			L NOV			
END			DEC			

REMARKS


Little Qualicum River
N
0
kilometres
QUALICUM BEACH
VANCOUVER ISLAND PLANTATION FOREST
LITTLE QUALICUM FALLS PARK
NEWCASTLE LAND DISTRICT
BK 1372
BK 390
BK 370
BK 359
BK 232
BK 37
BK 1375
BK 368
BK 526
BK 941
Kinkade Creek
Dashwood
Grandon Creek
Whiskey Creek
Little Qualicum Falls
Junk Yard
Vancouver Island Plantation Forest
Fritters

NAME OF STREAM LITTLE QUALICUM RIVER RAB No. 92-3600

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. and NW into Str. of Georgia, W. of Qualicum Beach, Newcastle Dist. POSITION 49 124 SE.

LENGTH 11.5 km WIDTH _____ m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) MAX 154 Jan. 19, 1968 MIN 0.736 Sept. 7, 1966

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Series of impassable rock falls in Little Qualicum Falls Provincial Park Area -- approx 13 km from mouth.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	- most side streams and upper reaches
COHO	- generally upriver and in Whisky and Kinkade Creeks
CHUM	- 90% below hatchery
PINK (ODD YEAR)	- lower reaches
PINK (EVEN YEAR)	- " "
STEELHEAD	

Physical conditions: Normal seasonal fluctuations in water levels.
1950/59 10-15% erosion and silting in lower reaches(1958/59)
Severe flash flood Jan/Feb 1958
1960/69 Erosion and silting reports range from 15-25% 1965/66 mod-severe scouring and bank undercutting.
1970/79 1973,75 reported severe bank undercutting and silting, otherwise normal.
1980 Some bank erosion during flood stage--extensive gravel shifting and uprooted trees and stumps causing a problem.
1981/83 Moderate to heavy silting during flood stage -- extensive gravel shifting.

General remarks:
1950/59 Subject to flash floods. 1958 reported significant loss of fry and spawn owing to very heavy freshets.
1956 Sockeye entered stream for second time on record. First was in 1955.

continued.....

LITTLE QUALICUM RIVER

1960/69	Heavy floods resulting in heavy egg losses.
1969	This river is one of the most popular streams for fresh water angling in the area.
1974	Commercial exploitation of chum run was restricted to Johnston Strait.
1975	Extensive logging in upper Cameron River area result in severe silting in adjacent water courses.
1976	A few Big Qualicum coho strayed back to this river. Verified by adipose clip.
1978	Chum escapement estimate by SEP contract. Low of 155,000 and high of 185,000 chum spawners.
1980	Channel escapement 6,500 chum
1982	First returns of chinook from Big Qualicum transplant. Channel had 28,704 chum (5500 ferried in by helicopter)
1983	31,000 chum in channel

1978/83 Some egg digging — overlapping by two runs of chum.

Sketch of Little Qualicum River, 1968

ESCAPEMENT RECORD FOR LITTLE QUALICUM RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	N/O	25	3,500	75,000	N/O	UNK
48	N/O	N/O	3,500	35,000	N/O	UNK
49	N/O	N/O	3,500	35,000	25	UNK
50	N/O	200	3,500	75,000	400	UNK
51	N/O	200	3,500	75,000	750	3,500
52	N/O	200	7,500	35,000	400	1,500
53	N/O	750	3,500	35,000	200	3,500
54	N/O	750	3,500	35,000	400	3,500
55	25	1,500	3,500	35,000	400	UNK
56	25	1,500	3,500	35,000	400	1,500
57	25	750	3,500	35,000	1,500	1,500
58	200	750	3,500	35,000	750	1,500
59	25	400	1,500	35,000	25	1,500
60	25	750	3,500	35,000	75	1,500
61	25	400	3,500	35,000	75	1,500
62	N/O	400	7,500	35,000	N/O	1,500
63	N/O	750	3,500	35,000	75	1,500
64	UNK	750	7,500	35,000	N/O	UNK
65	N/O	750	3,500	15,000	25	1,500
66	N/O	400	7,500	35,000	75	UNK
67	N/O	350	1,200	40,000	N/O	UNK
68	200	425	3,500	85,000	25	UNK
69	75	400	1,500	75,000	N/O	UNK
70	25	400	3,500	104,775	75	UNK
71	25	750	3,500	35,000	N/O	UNK
72	75	400	400	50,000	25	UNK
73	75	400	1,500	75,000	25	UNK
74	25	200	3,500	65,000	25	UNK
75	25	200	400	35,000	25	UNK
76	200	400	3,500	22,500	25	UNK
77	25	75	3,500	35,000	N/O	-
78	45	30	5,500	75,000	-	-
79	100	25	2,000	40,000	-	-
80	100	N/O	4,000	60,000	-	-
81	20	10	1,500	30,000	-	-
82	20	1,083	1,000	66,704	-	-
83		3,000	2,000	55,000	-	-
84						
85						
TIMING:						
ARRIVE	SEPT	SEPT	SEPT	E OCT	SEPT	
START	SEPT	SEPT	OCT	OCT	SEPT	
PEAK	OCT	OCT	NOV	NOV	SEPT	
END	OCT	OCT	DEC	L DEC	E OCT	

REMARKS

McNaughton Creek
N
0
2
kilometres
ESQUIMALT AND NANAIMO
Deep Bay
Mount Arrowsmith
COLLISTAND PLANTATION FOREST
BK 179
BK 197
BK 164
BK 841
BK 1194
BK 1162
BK 1147
BK 1185
BK 300
BK 194
BK 335
BK 432
BK 397
LD 9

NAME OF STREAM McNAUGHTON CREEK RAB No. 92-3410

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Cook Cr., Newcastle Dist.

POSITION 49 124 SW.

LENGTH 2.f km WIDTH 9 m DRAINAGE _____ km²

COMPOSITION: BEDROCK _____ BOULDER 37 COARSE 29 FINE 29

SILT & SAND _____ UNCLASSIFIED pools 5

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m² SPAWNING AREA _____ m²

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Numerous beaver dams and log jams in lower and middle reaches — monitored and removed as required. Rock falls approx 3.2 km upstream.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	- mainly below E & N Railway Crossing
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

Physical characteristics: This stream is dry during the summer, but moderate to high flows during escapement and spawning.

1950/59 Only slight silting reported 5%. Stream changing course in middle and lower reaches (1956,58,59)

1960/69 1965/66 15% erosion and silting, very heavy scouring in mid. and lower reaches during fall floods.

1970/79 Only slight erosion and silting.

1982 Moderate to heavy erosion below private farm. 1983 Severe erosion downstream of Odeaux Farm.

General comments:

1958 Considerable fry salvage carried out during summer months.

1966 Chum spawning subject to heavy scouring during fall floods.

1968 This system breaks up into many small tributaries the size of small ditches throughout a large swampy area above and below the RR line and below the Island Highway.

continued.....

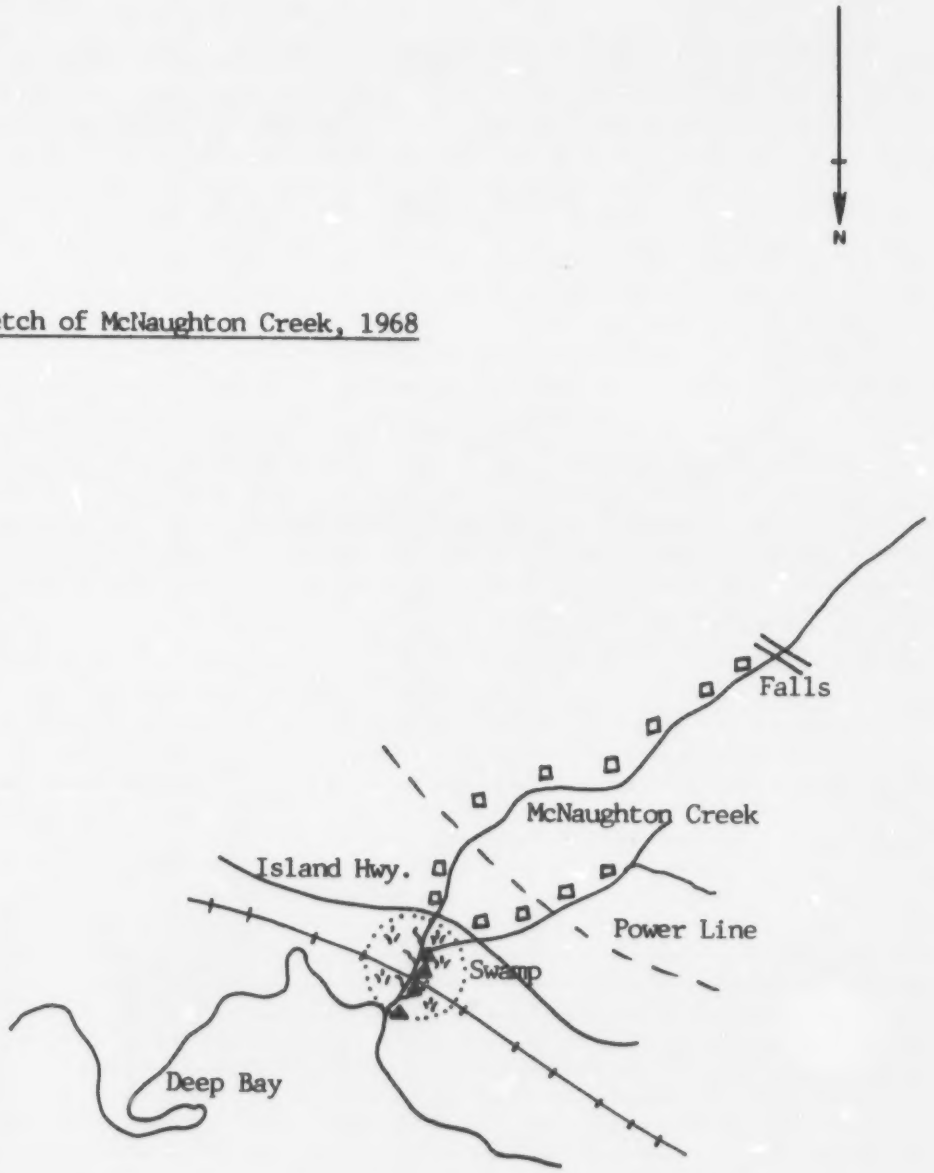
McNAUGHTON CREEK

1970 Water levels dropped early and quickly this past spring before fry salvage operations commenced. Stream clearance under Winter Works carried out extensive removal of log jams and forest debris providing an excellent spawning area especially in the lower swampy section. This section was heavily utilized for the first time in many years by chum salmon. This years return was only exceeded by the return of 6,500 in 1959.

1980 Considerable reduction commercial fishing time Johnson Straits. C.P.R.land clearing along tracks for a fence line. Some siltation,but min imal.Farm development in lower area is affecting this stream.

1983 Agricultural development downstream of Island Hwy. is causing some habitat degredation.

Predation: birds, bears and public.



Sketch of McNaughton Creek, 1968

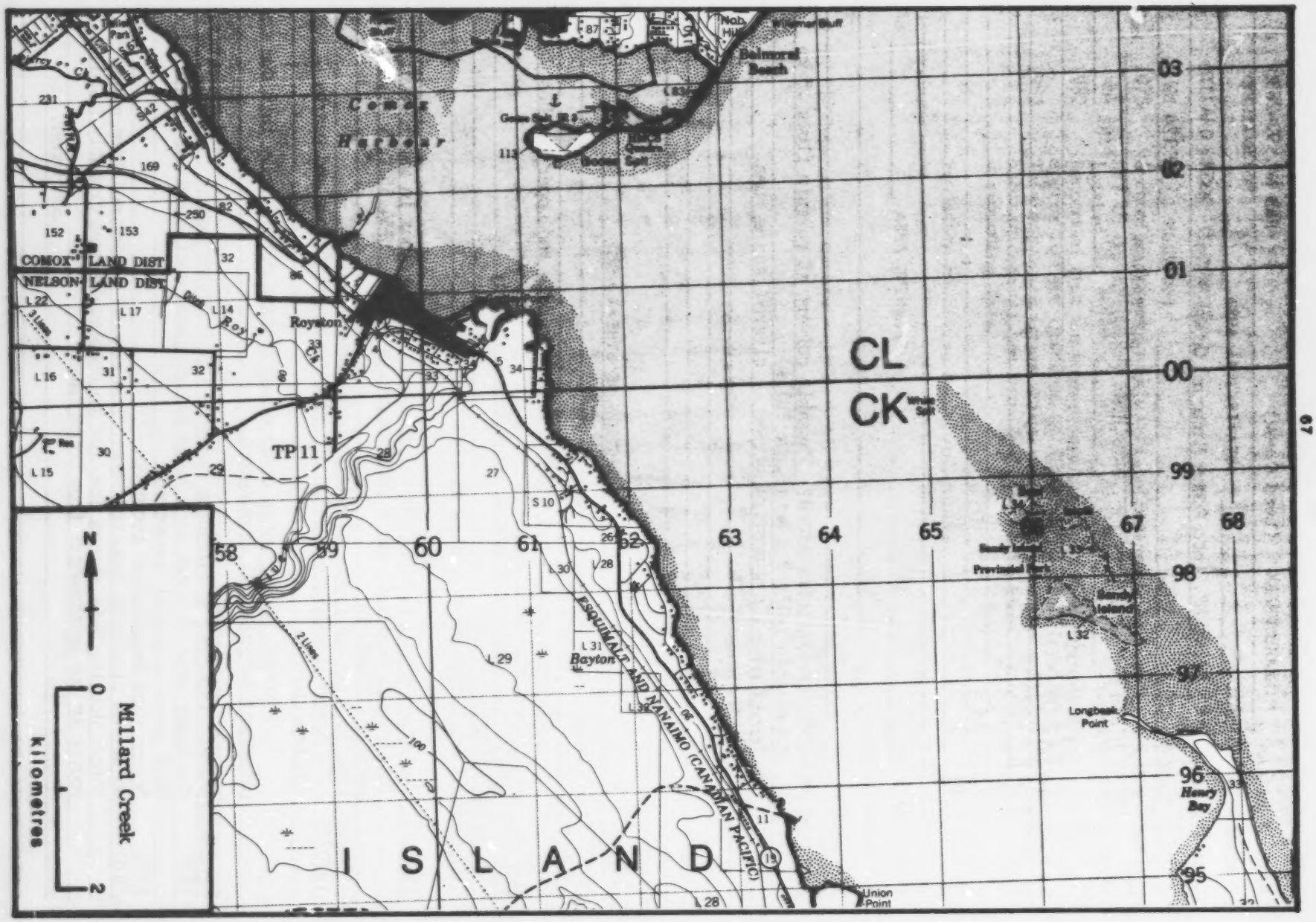
Fine gravel to Hwy.
Rocky gravel to Power Line

▲ - chum spawning grounds
□ - coho spawning grounds

ESCAPEMENT RECORD FOR McNAUGHTON CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48			NO RECORDS PRIOR TO 1951			
49						
50						
51			200	3,500		75
52			200	3,500		25
53			200	7,500		75
54			200	7,500		25
55			400	3,500		25
56			200	3,500		75
57			400	3,500		75
58			200	3,500		75
59			200	7,500		75
60			200	3,500		75
61			200	750		25
62			75	200		25
63			400	1,500		25
64			750	1,500		N/O
65			200	75		N/O
66			400	400		N/O
67			200	300		N/O
68			100	250		N/O
69			55	150		N/O
70			650	4,500		N/O
71			600	1,100		N/O
72			150	1,500		N/O
73			300	1,800		N/O
74			400	2,500		N/O
75			300	700		N/O
76			150	300		N/O
77			375	1,900		-
78			250	4,000		-
79			375	700		-
80			250	2,600		-
81			50	2,050		-
82			50	600		-
83			200	1,000		-
84						
85						
TIMING:						
ARRIVE			M OCT	L OCT		
START			L OCT	E NOV		
PEAK			L NOV	L NOV		
END			DEC	DEC		

REMARKS


Comox Harbour
Balmoral Beach
COMOX LAND DIST
NELSON LAND DIST
Royston
TP 11
CL
CK
Sandy Island
Provincial Park
Longbeach Point
Henry Bay
Union Point
Bayton
ESQUIMALT AND NANAIMO (CANADIAN PACIFIC)
I S L A N D
Millard Creek
kilometres
N
0
2
58
59
60
61
62
63
64
65
67
68
03
02
01
00
99
98
97
96
95

NAME OF STREAM MILLARD CREEK (Lard Creek) RAB No. 92-2830

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Comox Harbour, Comox Dist.

POSITION 49 124 NW.

LENGTH 2.5 km WIDTH 4.5 m DRAINAGE ____ km²

COMPOSITION: BEDROCK ____ BOULDER 5 COARSE 30 FINE 45

SILT & SAND 20 UNCLASSIFIED ____

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA ____ m² SPAWNING AREA ____ m²

DISCHARGE (m^3/s) ____

TEMPERATURE (°C) ____

BARRIERS OR POINTS OF DIFFICULT ASCENT Passable culvert at certain flows .5 km
impassable falls 2.5 km (Stoat Falls)
beaver dams along most of stream -- cleared during runs.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout, but concentrated in middle and upper reaches
CHUM	- in lower reaches
PINK (ODD YEAR)	- in lower reaches, below Island Highway
PINK (EVEN YEAR)	
STEELHEAD	- middle and upper reaches

Physical characteristics: 1950/59 Normal seasonal fluctuations in water levels. This stream is dry in upper reaches during summer. 1954.55 Very high water in November.
1960/69 1968/69 Reported favourable early high water levels.
1970/79 1975 Reported moderate erosion and silting due to floods and nearby construction.

1980/83 Considerable erosion and silting during heavy rain due to urban and agricultural development.

General remarks: 1950/59 Fry salvaging carried out in summer months (53,55)
1959 The lower part of creek is a large beaver swamp until dams are broken. Good spawning gravel uncovered.
1960 Beaver dams broached as required.
1970 No stream clearance required other than removal of accumulation minor forest debris. This stream does not go completely dry. Probably has its source in the groundwater from Comox Lake.

continued.....

continuation

MILLARD CREEK (Lard Creek)

1975 6 chum found near mouth in late November. Farming effluent killed fry in one tributary this year, but effluent tank has been re-located and this should not re-occur.

1982 Recommend that employment creation plans look into removal of falls approx 100 yds upstream of Crown Zellerbach logging road.

1983 This stream is under stress due to poor water quality and other habitat degredation from development in the City of Courtney and surrounding area.

Predation by birds, bears and public.

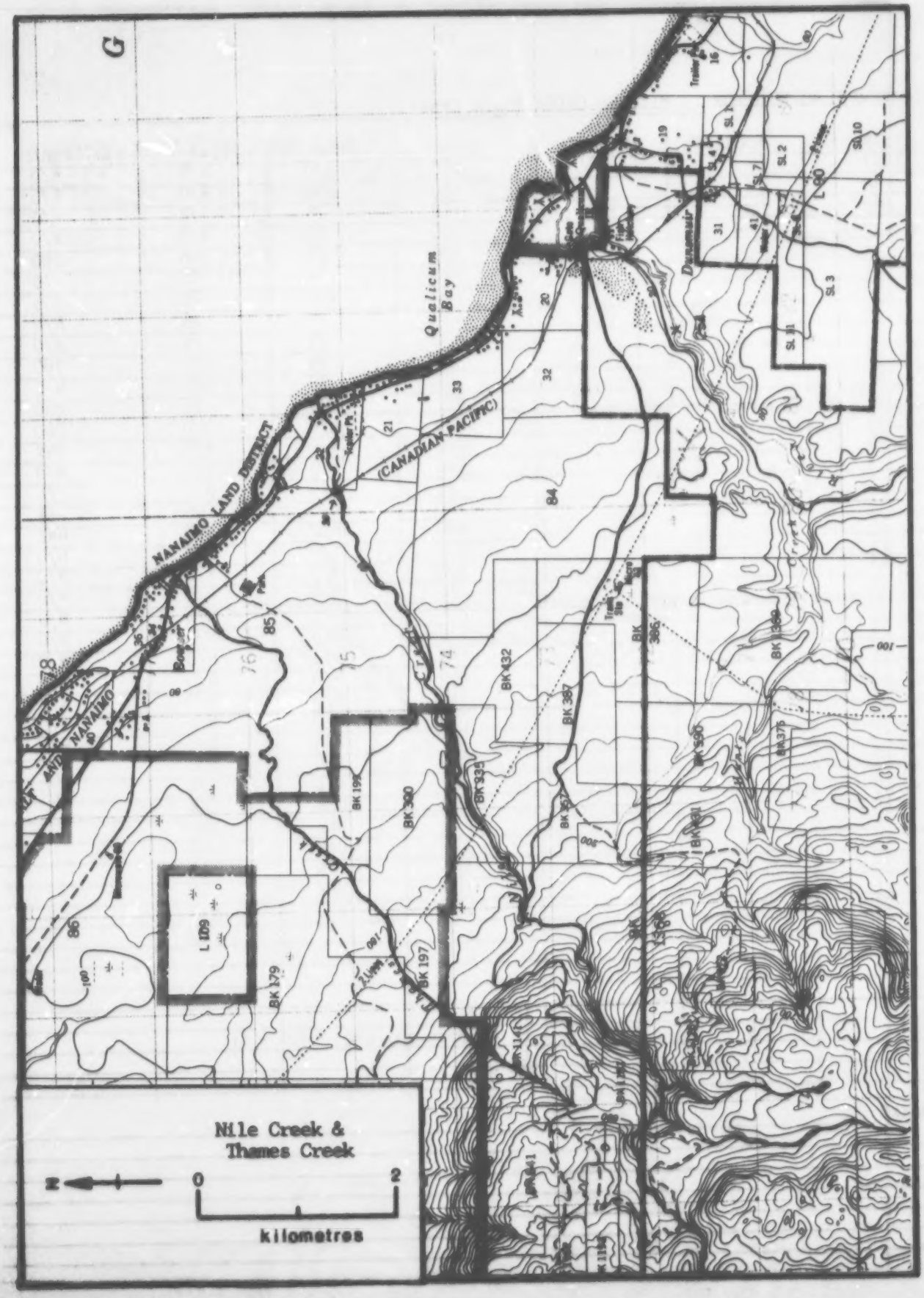
Sketch of Millard Creek 1968

□ - coho spawning grounds

ESCAPEMENT RECORD FOR MILLARD CREEK (Lard Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			750	N/O	N/O	N/O
48			400	N/O	N/O	N/O
49			75	75	N/O	N/O
50			400	75	N/O	N/O
51			400	75	750	200
52			750	75	75	75
53			750	200	75	200
54			400	75	25	N/O
55			400	25	25	N/O
56			200	25	25	200
57			400	25	N/O	N/O
58			400	25	25	200
59			200	N/O	N/O	200
60			200	N/O	N/O	UNK
61			200	N/O	N/O	N/O
62			75	N/O	N/O	25
63			200	N/O	25	25
64			400	N/O	N/O	UNK
65			200	N/O	N/O	N/O
66			200	N/O	N/O	N/O
67			75	N/O	N/O	N/O
68			200	N/O	N/O	N/O
69			175	N/O	N/O	N/O
70			350	N/O	N/O	N/O
71			350	N/O	N/O	N/O
72			250	N/O	N/O	N/O
73			250	N/O	N/O	N/O
74			500	N/O	N/O	N/O
75			250	N/O	N/O	N/O
76			350	N/O	N/O	N/O
77			500	UNK	UNK	
78			275	UNK	UNK	
79			175	UNK	UNK	
80			300	75	10	
81			100	UNK	15	
82			100	N/O	N/O	
83			30		25	
84						
85						
TIMING:						
ARRIVE			L OCT			
START			L OCT			
PEAK			L NOV			
END			DEC			

REMARKS


G
Qualicum Bay
NANAIMO LAND DISTRICT
(CANADIAN PACIFIC)
Dunsmuir
LD9
BK 179
BK 197
BK 198
BK 300
BK 334
BK 432
BK 387
BK 306
BK 1369
BK 376
BK 350
Nile Creek &
Thames Creek
N
0
2
kilometres

NAME OF STREAM NILE CREEK RAB No. 92-3480

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Qualicum Bay, Newcastle Dist.

POSITION 49 124 SW.

LENGTH 5 km WIDTH 8 m DRAINAGE ____ km^2

COMPOSITION: BEDROCK ____ BOULDER 5 COARSE 35 FINE 35

SILT & SAND ____ UNCLASSIFIED ____

PERCENT GRADIENT
0.00 - 0.25
0.25 - 0.50
0.50 - 0.75
0.75 - 1.00
>1.00

WETTED AREA ____ m^2 SPAWNING AREA ____ m^2

DISCHARGE (m^3/s) MAX 33.4 Jan. 15, 1974 MIN 0.065 Jul. 31, 1961

TEMPERATURE (°C) ____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable rock falls 5.6km from mouth

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- in upper reaches
CHUM	- in lower reaches
PINK (ODD YEAR)	- in lower and middle reaches
PINK (EVEN YEAR)	- " "
STEELHEAD	- in upper reaches to base of falls

Physical conditions: 1950/59 Normal seasonal fluctuations in water levels, erosion and silting ranged from less than 5% to 10% — considerable scouring in upper reaches 1957/58

1960/69 1966 Severe scouring in lower reaches due December floods.
1967 Moderate erosion and bank undercutting in middle reaches.

1970/79 Normal seasonal fluctuations in water levels.

1980/83 Reported 40% of stream affected by erosion and silting. Some bank erosion — extensive gravel shifting and scoured banks. Water levels low up till spawning time, then subject to flash flooding.

General Remarks: This stream is the base of an experimental station conducted by Fisheries Research Board.

1954/56 Reported poor runs of salmon.

1959 Several gillnets and one small seine worked just outside the Nile Creek boundary when the fish were arriving.

1964 Observations of steelhead too limited to estimate size of stock.

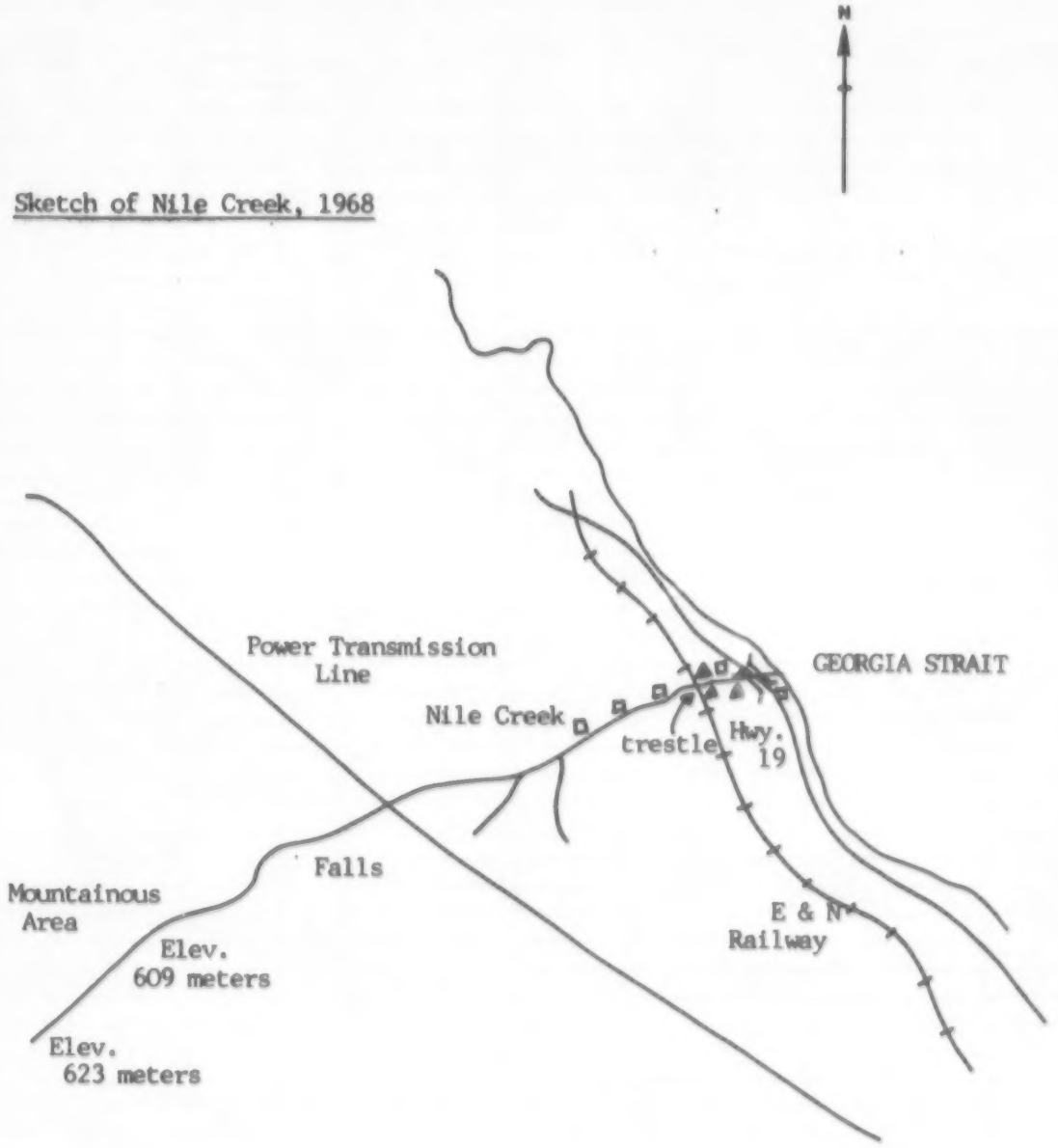
continued.....

continuation

NILE CREEK

1967	High flows in December damaged chum and coho spawn.
1972/73	A small creek with good quality potable water which is used by domestic consumers served by Horne Lake Waterworks District. The relatively small salmon runs are a normal feature of this stream.
1977	A large scale residential sub-division is now situated adjacent to the East bank of Nile Creek above Hwy. 19.Water from the creek serves the Horne Lake Waterworks District which is a consumer coop supplying the Big Qualicum project and adjacent populated area with domestic water supplies. Second growth timber is scheduled for harvesting in the near future. (MacMillan Bloedel). Commercial net fishery openings on the Big Qualicum may affect salmon stocks native to Nile Creek.
1981	Some bank shoring done by Water Board, more proposed by new residents next year.
1982	Some bank rip-rap to repair extensive erosion at lower end of creek. This is a first year return from Big Qualicum coho transplant.

Sketch of Nile Creek, 1968



□ - coho spawning area
▲ - chum spawning area

Spawning gravels: Extensive bouldery areas especially upstream. Best grade gravel from E & N Railway trestle downstream to mouth.

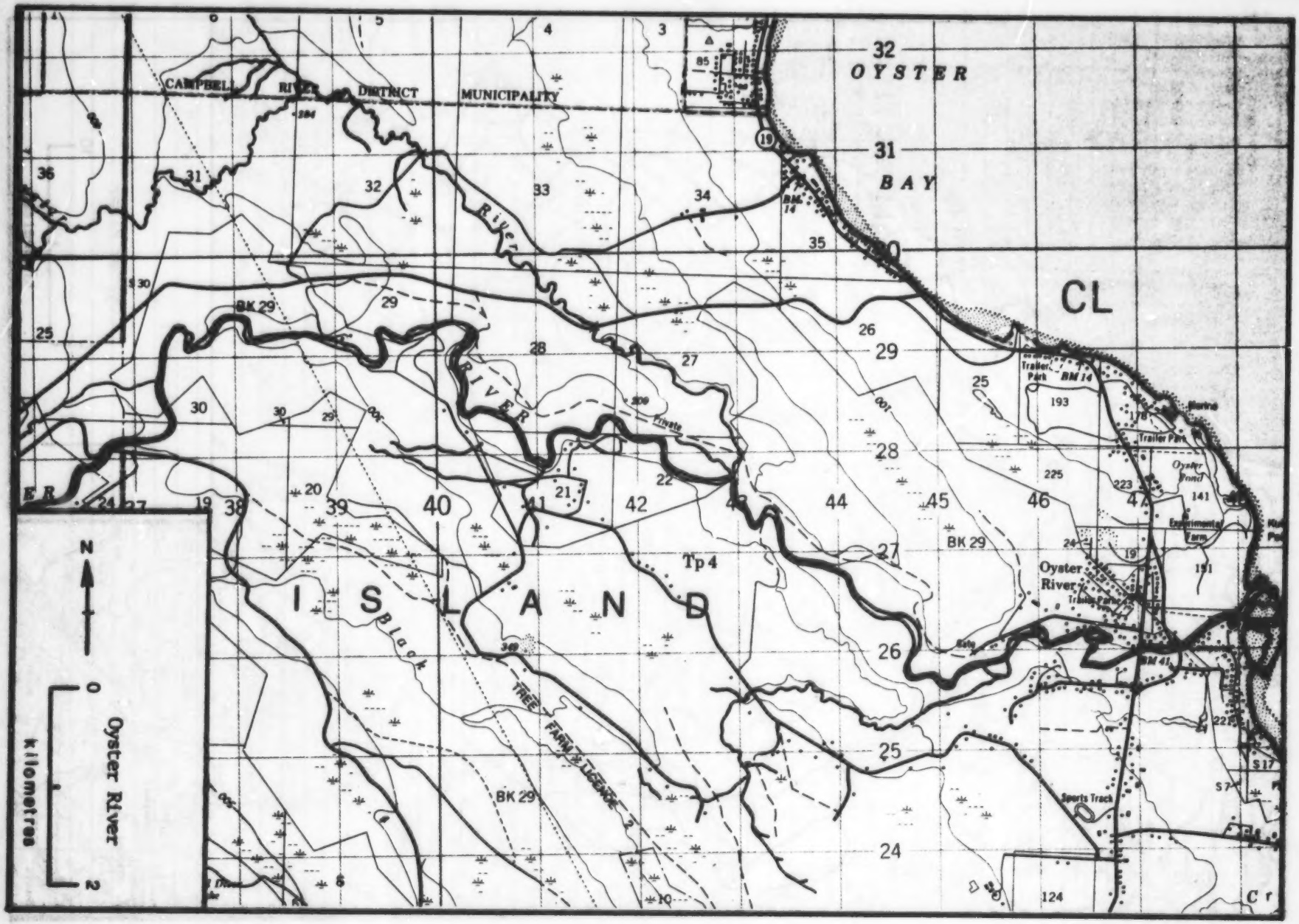
ESCAPEMENT RECORD FOR NILE CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947		N/O	463	1,009	N/O	N/O
48		N/O	200	400	N/O	N/O
49		N/O	200	750	25	N/O
50		N/O	200	400	200	N/O
51		N/O	400	200	200	N/O
52		25	750	1,500	200	N/O
53		N/O	750	25	75	N/O
54		N/O	400	200	200	UNK
55		N/O	400	400	400	N/O
56		N/O	200	200	200	200
57		N/O	200	200	1,500	UNK
58		N/O	200	75	25	200
59		N/O	75	200	N/O	200
60		N/O	200	200	N/O	200
61		N/O	75	75	N/O	75
62		N/O	200	75	N/O	75
63		N/O	200	75	N/O	75
64		N/O	400	200	N/O	UNK
65		N/O	200	75	N/O	75
66		N/O	200	75	75	UNK
67		N/O	50	50	N/O	UNK
68		N/O	100	400	N/O	UNK
69		N/O	75	200	N/O	UNK
70		N/O	75	25	N/O	UNK
71		N/O	200	25	N/O	UNK
72		N/O	25	400	N/O	UNK
73		N/O	25	75	N/O	UNK
74		N/O	200	25	N/O	UNK
75		N/O	25	25	N/O	UNK
76		N/O	25	25	N/O	UNK
77			25	25	-	-
78			20	25	-	-
79			10	25	-	-
80				30	-	-
81			25	50	-	-
82			100	30	-	-
83			20	50	-	-
84						
85						
TIMING:						
ARRIVE		OCT	OCT	OCT		
START			OCT	OCT		
PEAK			E NOV	NOV		
END			L DEC	NOV		

REMARKS

Timing of Migration:	Period	10%	50%	90% of Total
Adult Coho	1945 - 53	Oct. 15	Nov. 1	Nov. 16

CAMPBELL
RIVER
DISTRICT
MUNICIPALITY
Oyster
Bay
River
Black Creek
CONSTITUTION
HILL
WASHINGTON
Headquarters
COURTENAY
Sandwick
Cumberland
Comox Lake
Trent
Trouble
Tp 4
Tp 7
Tp 9
Tp 10
Tp 14
LAYEAU
MT. ORADDLE
INDIANHEAD MTN
MT. BECHER
COMOX
NELSON
LAND
DISTRICT
Sunridge
N
Oyster River
0
10
kilometres


CAMPBELL RIVER DISTRICT MUNICIPALITY
OYSTER
BAY
CL
ISLAND
Tp 4
River
RIVER
Black
BK 29
Oyster River
TREE FARM LICENCE 2
Sports Track
Trailer Park
Experimental Farm
N
0
Oyster River
kilometres
2

NAME OF STREAM OYSTER RIVER

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Str. of Georgia, S. of Kuhushan Pt., Comox Dist.

POSITION 49 125 NE.

LENGTH 20 km WIDTH 30 m DRAINAGE _____ km²

COMPOSITION: BEDROCK 36 BOULDER 36 COARSE 12 FINE 9

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m² SPAWNING AREA _____ m²

DISCHARGE (m^3/s) MAX 2.31 May 18, 1972 MIN 0 Sept. 23, 1966

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable cascade and cataract type falls 20 km from mouth

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- in upper reaches and tributaries
CHUM	- in lower reaches of main stem
PINK (ODD YEAR)	- in lower reaches of main stem
PINK (EVEN YEAR)	
STEELHEAD	

Physical conditions: 1954/58 Uprooted trees and roots have resulted in heavy scouring and course changes. Considerable erosion in middle and lower reaches. 1960/68 Erosion and silting ranges between 10-20% of stream bed. 1966/68 Heavy scouring and gravel shifting. 1970/74 Heavy scouring during high water in lower two miles of stream. Tributaries little affected. 1975/79 Severe erosion throughout —lower section of stream covering major spawning area wiped out by very high flood. 1980/83 This river system is very unstable — subject to major erosion and silting throughout. Major scouring in lower reaches — moderate in upper watershed and tributaries.

General Remarks:

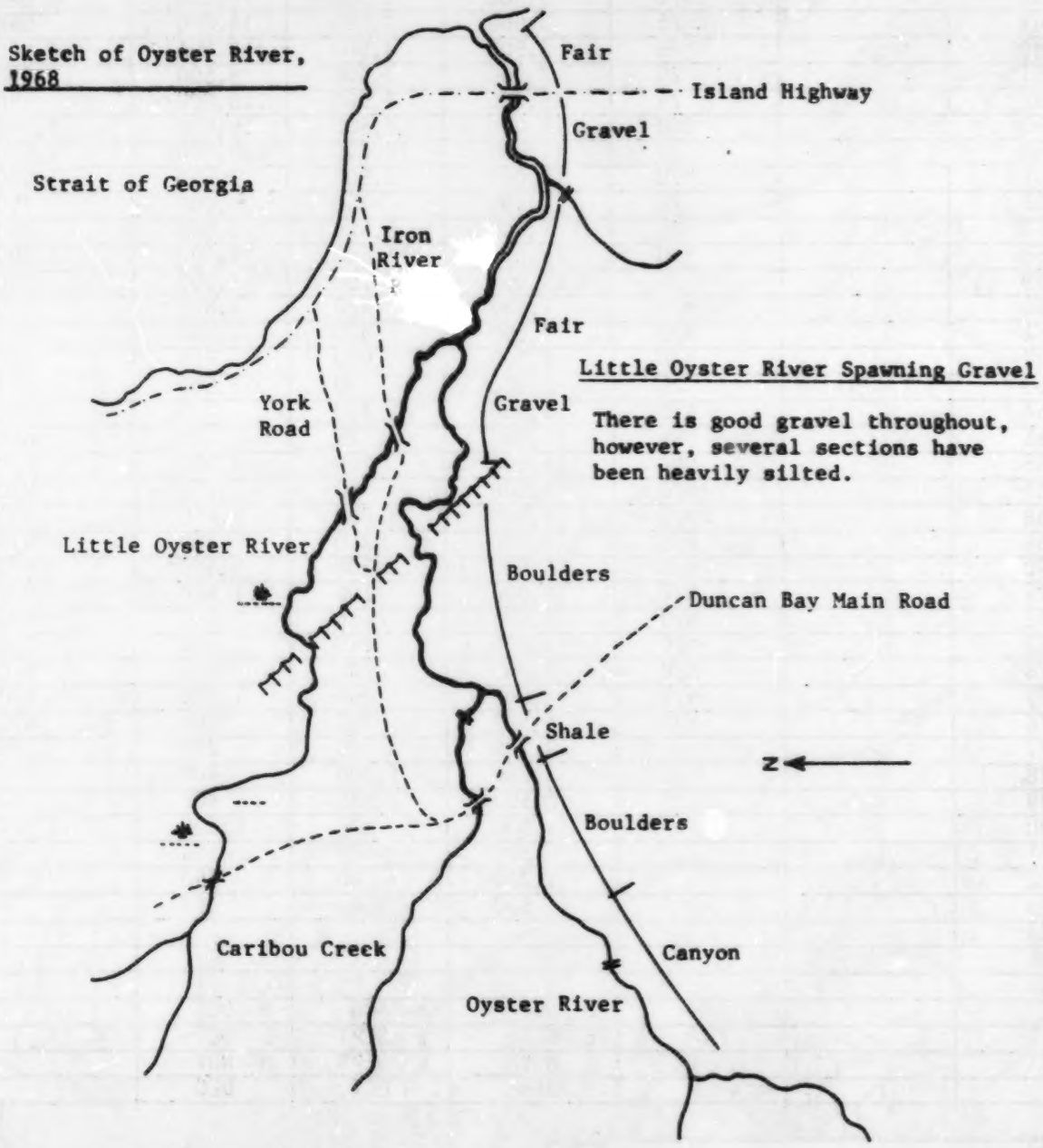
1950/59 Big Oyster had fairly good flow throughout summer dry spell, but Little Oyster was dry from August to November (52) Fry Salvage required 1958.

1960/63 Very high percentage of jacks.

continued.....

OYSTER RIVER

1969	Logging on upper reaches, well above known salmon spawning grounds results in flushes of silt during heavy rainfall run-off over new road construction.
1970	The coho transplant from the Little Oyster tributary to Woodhouse tributary was proved successful this year as the first returns endeavoured to enter Woodhouse Creek with an estimated 400 to 500 observed in the entrance to the creek. The rock falls require modification as there are a number of miles of excellent gravel in the main stem Oyster River above the falls.
1971/76	Logging on both main tributaries has resulted in serious silting and acceleration of run-off. Considerable chum and pink spawning(90%) lost due to floods. Bank stabilization and channelization for flood control on Lower Oyster River completed by Water Rights Branch. Large buried boulders and spurs from rip-rap banks were built into the works to enhance salmon habitat.
1977	Flash run off from logging claims has resulted in serious silting and accelerated flows rendering spawning grounds very unstable.
1980/83	A very volatile water shed mainly due to logging and unstable soils in upper areas. December flood caused extreme gravel displacement, scouring and silting throughout.All spawn from Island Hwy.bridge to mouth lost. (100% of chum 25% of pinks) This river is rapidly losing the remnant stocks of salmonids.


Sketch of Oyster River, 1968
Strait of Georgia
Fair
Island Highway
Gravel
Iron River
Fair
Gravel
York Road
Little Oyster River
Boulders
Duncan Bay Main Road
Shale
Boulders
Canyon
Caribou Creek
Oyster River
Little Oyster River Spawning Gravel
There is good gravel throughout, however, several sections have been heavily silted.

ESCAPEMENT RECORD FOR OYSTER RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947		25	7,500	7,500	7,500	UNK
48		N/O	3,500	1,500	75,000	UNK
49		25	3,500	3,500	15,000	UNK
50		75	3,500	3,500	100,000+	1,500
51		25	7,500	3,500	3,500	1,500
52		25	35,000	7,500	100,000+	750
53		200	15,000	7,500	15,000	1,500
54		25	15,000	15,000	100,000+	1,500
55		N/O	15,000	3,500	3,500	1,500
56		25	7,500	750	35,000	750
57		25	7,500	3,500	3,500	750
58		N/O	15,000	7,500	75,000	1,500
59		25	15,000	750	1,500	750
60		N/O	7,500	400	3,500	750
61		N/O	7,500	400	1,500	750
62		N/O	7,500	1,500	750	750
63		25	7,500	750	3,500	750
64		N/O	15,000	400	200	UNK
65		UNK	15,000	75	750	UNK
66		UNK	15,000	200	3,500	N/O
67		N/O	4,000	50	1,200	N/O
68		N/O	5,500	800	2,150	N/O
69		N/O	3,000	250	200	N/O
70		N/O	6,000	200	1,500	N/O
71		N/O	8,000	100	1,400	N/O
72		N/O	3,500	850	1,100	N/O
73		N/O	3,500	250	1,200	N/O
74		N/O	5,000	500	850	N/O
75		N/O	3,500	450	900	N/O
76		N/O	1,500	450	800	N/O
77			3,700	75	200	-
78			3,200	1,300	400	-
79			2,500	125	400	-
80			3,000	175	5,000	-
81			500	75	100	-
82			1,200	80	150	-
83			500	N.O.	150	-
84						
85						
TIMING:						
ARRIVE			E OCT	M AUG	M OCT	
START			E OCT	E SEPT	L OCT	
PEAK			L NOV	L SEPT	M NOV	
END			JAN	OCT	DEC	

REMARKS

Puntledge River
N
0
10
kilometres

N
Puntledge River
0
2
kilometres
Courtenay
Comox
BK 71
BK 72
Puntledge R.

NAME OF STREAM PUNTLEDGE RIVER RAB No. 92-2800

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Courtney River, Comox Dist.

POSITION 49 124 NW.

LENGTH 14 km WIDTH 59 m DRAINAGE _____ km²

COMPOSITION: BEDROCK 38 BOULDER 23 COARSE 8 FINE 5

SILT & SAND _____ UNCLASSIFIED pools 26

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA 841618* m² SPAWNING AREA 109516* m²

DISCHARGE (m^3/s) MAX 334 Nov.5, 1975 MIN 5.49 Sept. 3, 1955
At Courtenay

TEMPERATURE (°C)

BARRIERS OR POINTS OF DIFFICULT ASCENT Passable with controlled flows and fishways two B.C.Hydro dams 10km and 15km upstream — Stotan and Nib Falls 6 and 8km under observation and continuing modification by Dept (79) 1980 Recommend additional ladders.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	- upstream to diversion dam
COHO	- " "
CHUM	- lower 3.5 km and above hatchery where gravel available.
PINK (ODD YEAR)	- lower 3 km below power house
PINK (EVEN YEAR)	- " " "
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM The theoretical potential for the Puntledge River system exceeds by a wide margin that for any other stream in Area 14 The potential exists in the spawning and rearing opportunities in Comox Lake and tributary streams (Upper Puntledge River and lakes and Cruikshank River system) for coho and sockeye salmon. The problems to be overcome to realize this potential are: migration of adult fish over Stotan & Nib Falls, migration of juvenile fish from diversion dam to lower stream. Successful transplantation of coho and sockeye salmon is a necessary part of realizing this potential.

* Wetted area and spawning area includes that portion of stream above diversion dam (11-14km) and is not utilized at the present time. The wetted area and spawning area are approx 229567 sq meters and 75753 sq meters respectively above the diversion dam The Puntledge River is the site of a hydro power project dating to 1913. A further development scheme initiated in 1953 increased the hazards of salmon production.

continued.....

continuation

PUNTLEDGE RIVER

A spawning channel was constructed in 1965 as part of the program to protect the fishing resource. In 1972 rearing ponds at the spawning channel were completed and a small temporary hatchery was set up in the old B.C.Hydro Powerhouse building for the production of early and fall run chinook.

Physical conditions:

1950/59 Usual seasonal fluctuations in water levels.
1960/69 10/15% erosion, very heavy scouring of major spawning area.
1967 No gravel left upstream of power house — previous chum spawning grounds.
1970/79 1971/76 Controlled flows during critical period — slight to moderate scouring.
1980 1982/83 Silt load carried into Puntledge from Browns River.High water during heavy fall and winter rains.

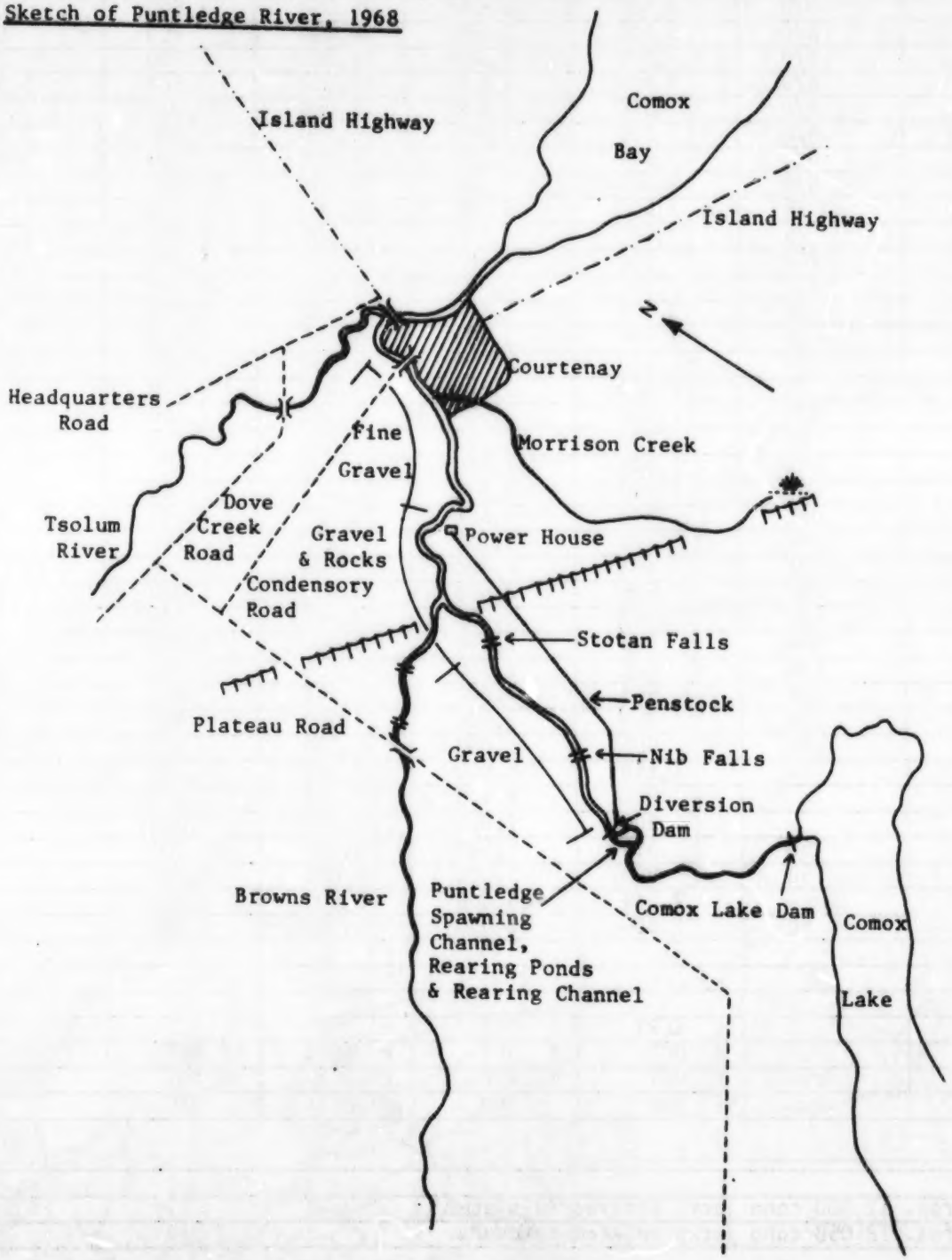
General comments:

1977 A fish ladder was constructed on Nib Falls this past summer and should prevent injuries to early run of pinks. Construction work at channel may have been the cause of the heavy run of pinks — possibly diverted from the Tsolum by the continuous flow of silt.
1979 Rip-Rap installed by Indian Affairs approx. 1 km downstream from the Condensory Bridge. The Tsolum River has broken through just below the rip-rap spilling onto a chum spawning area on the Puntledge.
1980 Considerable reduction commercial fishing time in Johnson Straits.

	Approx 12,000 coho jacks in system	69 summer chinook, 54 fall chinook
1981	" 12,058 " " " "	
1982	12,380 " " " "	

1983 Chum over spawning in lower river area.

Sketch of Puntledge River, 1968



ESCAPEMENT RECORD FOR PUNTLEDGE RIVER

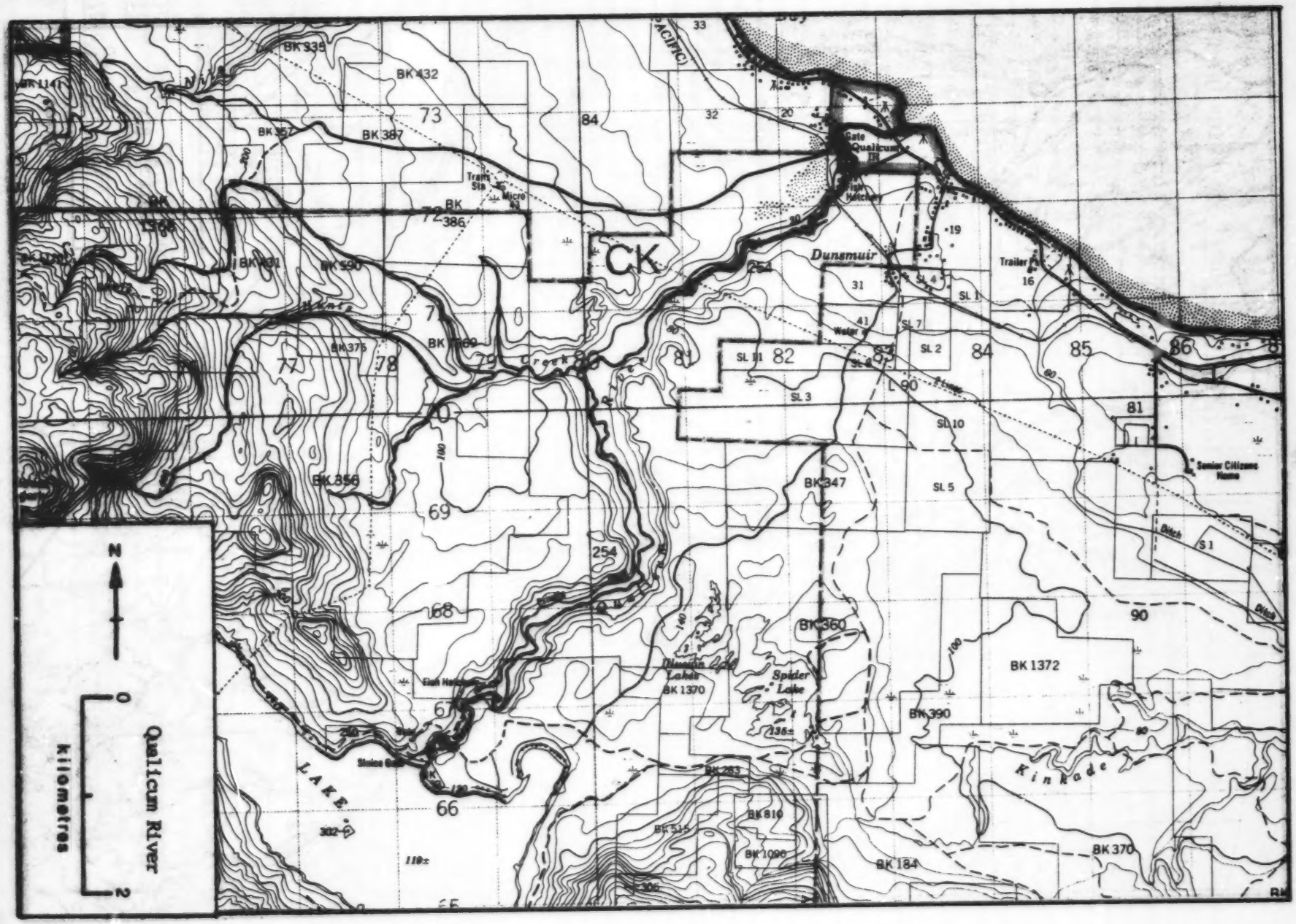
YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	N/O	3,500	3,500	75,000	1,500	UNK
48	N/O	3,500	1,500	35,000	750	UNK
49	N/O	7,500	3,500	15,000	7,500	UNK
50	N/O	7,500	1,500	15,000	7,500	1,500
51	N/O	7,500	3,500	75,000	100,000+	3,500
52	N/O	3,500	3,500	15,000	15,000	3,500
53	N/O	3,500	7,500	35,000	7,500	3,500
54	N/O	15,000	7,500	35,000	15,000	3,500
55	25	7,500	3,500	35,000	15,000	1,500
56	25	1,500	3,500	15,000	7,500	1,500
57	200	3,500	7,500	35,000	15,000	1,500
58	400	7,500	7,500	35,000	35,000	1,500
59	25	3,500	1,500	35,000	3,500	1,500
60	25	3,500	3,500	35,000	3,500	1,500
61	25	1,500	3,500	15,000	7,500	1,500
62	25	1,500	3,500	35,000	3,500	1,500
63	N/O	1,500	7,500	75,000	7,500	1,500
64	25	750	15,000	35,000	750	UNK
65	UNK	1,500	1,500	1,500	1,500	UNK
66	UNK	1,500	3,500	35,000	1,500	UNK
67	UNK	840	1,500	20,000	1,200	N/O
68	UNK	720	1,100	55,000	2,100	N/O
69	UNK	486	1,400	27,500	100	N/O
70	UNK	685	2,500	34,000	1,000	N/O
71	UNK	557	4,000	14,500	300	N/O
72	UNK	635	1,500	60,000	2,500	N/O
73	UNK	821	1,500	55,000	700	N/O
74	UNK	564	7,000	45,000	850	N/O
75	UNK	754	2,500	27,500	400	N/O
76	UNK	605	1,000	35,000	350	N/O
77	-	1,150	5,000	47,000	4,000	-
78		900	2,500	68,000	1,600	-
79		1,200	7,000	20,000	8,000	-
80	150	1,300	5,500	60,000	6,200	-
81	50	900	5,800	82,000	5,500	-
82	-	2,340	25,000	65,000	700	-
83	50	1,500	31,000	75,000	1,700	200
84						
85						
TIMING:						
ARRIVE		L SEPT	E OCT	M AUG	M OCT	
START		E OCT	E OCT	M SEPT	L OCT	
PEAK		M OCT	E NOV	E OCT	M NOV	
END		E NOV	JAN	M OCT	DEC	

REMARKS

1980 Approx. 12,000 coho jacks arrived in system
1981 Approx. 12,058 coho jacks entered hatchery

1980/83 Escapement data includes hatchery adult take but does not include jacks.

GEORGIA
Qualicum River
N
0
10
kilometres


N
0
2
kilometres
Qualicum River
LAKE
CK
Creek
Dunsmuir
Spider Lake
Kinkade
Senior Citizens Home
Trailer Pk
Water
Ditch
BK 339
BK 432
BK 387
BK 357
BK 386
BK 1368
BK 431
BK 390
BK 375
BK 369
BK 356
BK 347
BK 360
BK 1372
BK 1370
BK 390
BK 263
BK 810
BK 515
BK 1090
BK 184
BK 370
SL 1
SL 2
SL 3
SL 4
SL 5
SL 7
SL 10
SL 11
L 90
Trans Stn
Micro Stn
Gate
Qualicum IR
Fish Hatchery
Pacific
302
110±
138±

NAME OF STREAM QUALICUM RIVER (Big Qualicum River) RAB No. 92-3500

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Str. of Georgia, S. of Qualicum Bay, Newcastle Dist. POSITION 49 124 SW.

LENGTH 10 km WIDTH 23 m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER 27 COARSE 23 FINE 23

SILT & SAND _____ UNCLASSIFIED pools

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA 25506 m^2 SPAWNING AREA 117290 m^2

DISCHARGE (m^3/s) MAX 90.6E Jan 15, 1961 MIN 0.388 Aug 28, 1961

Near Bowser
TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable series of falls and Big Qualicum Water Works at 9.6km.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	mainly above Hunts Cr. 5km preferring upper reaches
COHO	throughout - also Hunts Creek
CHUM	mainly mouth to mid reaches - scattered in upper reaches
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

Horne Lake (7.68 km) appears to have potential for rearing coho and sockeye.

GENERAL REMARKS The Qualicum River is being developed by the Federal Govt. to increase the production of the indigenous stock of chum, coho and chinook salmon. The development project was directed initially to control the stream discharge and temperature. Artificial spawning channels, rearing ponds, rearing channels and a hatchery are an integral part of the scheme. Further development has resulted in improvements of the spawning grounds.

1959 Counting fence established in Fish Culture Branch in lower reaches and an accurate count of salmon passing this fence was obtained.

1961 Special project to give continuous controlled flow of water is proceeding and scheduled for completion by next fall.

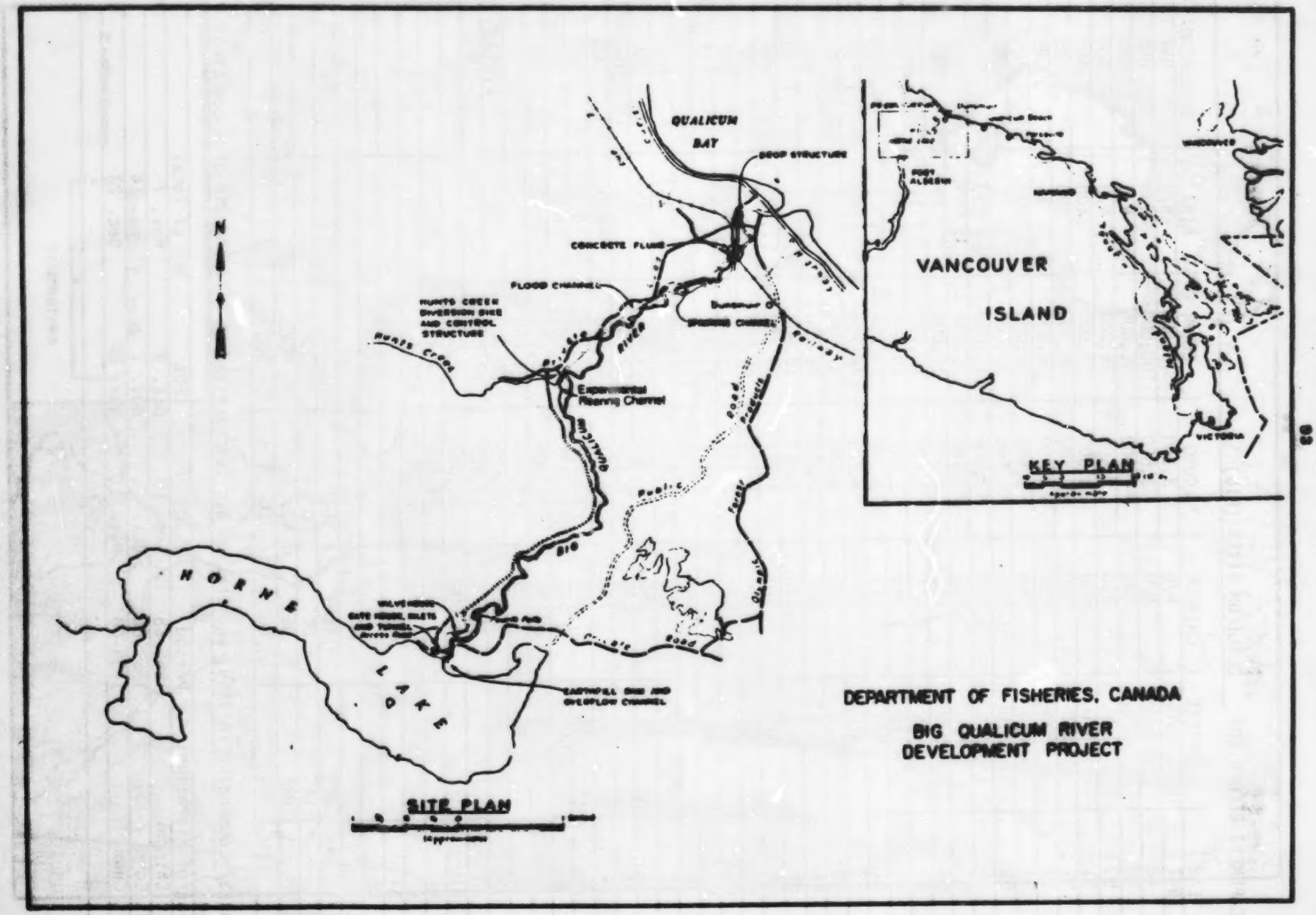
continued.....

continuation

QUALICUM RIVER (Big Qualicum River)

1962 Project to control water flows and temperature is continuing with Hunt Creek tributary water now under control.
1962/67 Controlled flows and fence counts.
1967 Facilities were expanded by a building project in 1967 season. Facilities involved additional spawning channel area for chum and chinook rearing ponds.
1972 For the first time in many years Big Qualicum chum were exposed to a commercial net fishery just off the river estuary.
1979 Falmurden Developments this year logged extensively on both sides of the river. Silting in the main river was the result of the minor feeder streams being disturbed by lack of cover.
1980 25,000 chum in new channel.
1981 Coho and chinook allowed natural spawning in upper river; chum utilizing new channel and lower river.
1983 Indian Food Fishery Chinook - 8 jacks
Coho -8,709 adults, 12,166 jacks
Chum -20,804
25,000 chum in channel

Timing of Migration	Period	10%	50%	90% of Total
Juvenile chinook (E. Grp.)	1960-67	Mar. 5	Mar.5-Apl. 26	May 17
Juvenile chinook (L. Grp.)	1960-67	May 4	May 29-Jun. 10	Jun. 29
Juvenile coho	1960-67	Mar. 20	May 3-May 21	Jun. 21
Juvenile chum	1960-67	Apl.10	Apl. 29-May 19	May 30


QUALICUN BAY
DROP STRUCTURE
CONCRETE PLUG
FLOOD CHANNEL
HUNTS CREEK DIVERSION DIKE AND CONTROL STRUCTURE
Hunts Creek
Existing Flowing Channel
Qualicum
BIG
HORNE
LAKE
EARTHFILL DIKE AND OVERFLOW CHANNEL
SITE PLAN
N
VANCOUVER
ISLAND
VICTORIA
KEY PLAN
DEPARTMENT OF FISHERIES, CANADA
BIG QUALICUM RIVER
DEVELOPMENT PROJECT

ESCAPEMENT RECORD FOR QUALICUM RIVER (BIG)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	N/O	N/O	3,500	75,000	N/O	UNK
48	N/O	N/O	3,500	100,000+	N/O	UNK
49	N/O	200	1,500	35,000	N/O	UNK
50	N/O	750	3,500	35,000	N/O	400
51	N/O	400	3,500	75,000	400	1,500
52	N/O	200	3,500	35,000	200	1,500
53	N/O	750	3,500	35,000	75	3,500
54	N/O	750	3,500	35,000	200	1,500
55	N/O	1,500	3,500	35,000	25	UNK
56	N/O	1,500	3,500	15,000	200	750
57	N/O	1,500	3,500	35,000	1,500	750
58	N/O	750	3,500	35,000	25	750
59 *	25	2,411	3,624	98,500	11	1,500
60	25	1,569	2,562	60,000	25	1,500
61	N/O	1,111	2,286	13,800	1	750
62	N/O	787	4,223	46,700	N/O	1,500
63	N/O	619	4,500	37,900	1	1,500
64	N/O	602	4,859	36,400	N/O	UNK
65	N/O	1,118	3,817	18,800	75	1,500
66	N/O	870	4,324	53,400	11,900	UNK
67	N/O	764	1,346	46,600	4	UNK
68	N/O	830	2,325	139,900	2,500	UNK
69	N/O	939	1,821	81,337	N/O	137
70	25	1,660	5,293	132,000	25	UNK
71	25	750	8,500	75,000	25	UNK
72	25	750	1,500	75,000	25	UNK
73	25	636	2,428	157,755	25	UNK
74	N/O	770	18,281	80,620	N/O	45
75	UNK	1,300	23,592	109,383	N/O	UNK
76	UNK	949	13,477	92,000	N/O	UNK
77	25	3,500	75,000	75,000	-	UNK
78	25	4,600	22,000	124,000	-	-
79	-	8,309	54,525	120,000	-	1,000
80		7,521	44,957	87,000	-	-
81		4,600	86,000	82,000		
82		3,415	39,156	133,482		
83		2,861	21,757	130,405		
84						
85						
TIMING:						
ARRIVE	OCT	SEPT	SEPT	OCT	OCT	
START	OCT	OCT	OCT	OCT	OCT	
PEAK	OCT	M OCT	NOV	NOV	OCT	
END	NOV	L OCT	DEC	L DEC	OCT	

REMARKS *Commencing in 1959, enumeration has been arrived at with the aid of a counting fence:

Timing of Migration:	Period	10%	50%	90% of Total
Adult Chinook	1960-68	Sep. 10	Oct. 9	Nov. 7
Adult Coho	1959-68	Oct. 4	Nov. 1	Dec. 14
Adult Chum	1959-68	Nov. 8	Nov. 27	Dec. 23

Rosewall Creek
N
0
2
kilometres

NAME OF STREAM ROSEWALL CREEK RAB No. 92-3400

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Mud Bay, W. of Deep Bay, Newcastle Dist.

POSITION 49 124 SW.

LENGTH 4 km WIDTH 14.50 m DRAINAGE _____ km²

COMPOSITION: BEDROCK _____ BOULDER 31 COARSE 27 FINE 27

SILT & SAND _____ UNCLASSIFIED pools 15

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m² SPAWNING AREA _____ m²

DISCHARGE (m³/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable falls at 3.8km
21 m drop over 92 m

SPAWNING DISTRIBUTION * BEFORE FENCE INSTALLATION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	- 90% below highway bridge
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

Physical conditions:

1950/59 Normal seasonal fluctuations in water levels — erosion and silting between 5 and 20%

1960/69 1965/66 reported 10-15% erosion — very heavy scouring in lower reaches due to fall floods. Chum spawning affected. 1968/69 extremely low during summer. 1970/79 Normal fluctuations.

1980 Fairly extensive scouring and change of stream course below hatchery.

1981 Major erosion in vicinity of hatchery site.

General Remarks:

1961 This stream has adequate gravel to support a much larger salmon population, but requires flood control.

1966 Chum spawning subject to heavy scouring during fall floods.

1968 Fisheries Research Board experimental hatchery facilities in operation by late fall on site near mouth of stream. Salmon eggs utilized from a wide variety of coastal streams.

continued.....

ROSEWALL CREEK

1970 Stream clearance work. Crews had only minor work to do. Many logs left in the stream to decelerate flows during peak run-off periods.

1980 Hatchery personnel report approx 1/2 of the spawners below the hatchery were marked hatchery fish.

1981 Escapement totals include return to experimental hatchery. Natural distribution is prohibited by hatchery fence.

1983 Spawning distribution is controlled by the electric barrier fence, A few coho were hand lifted over the fence by F.R.B.Personnel.

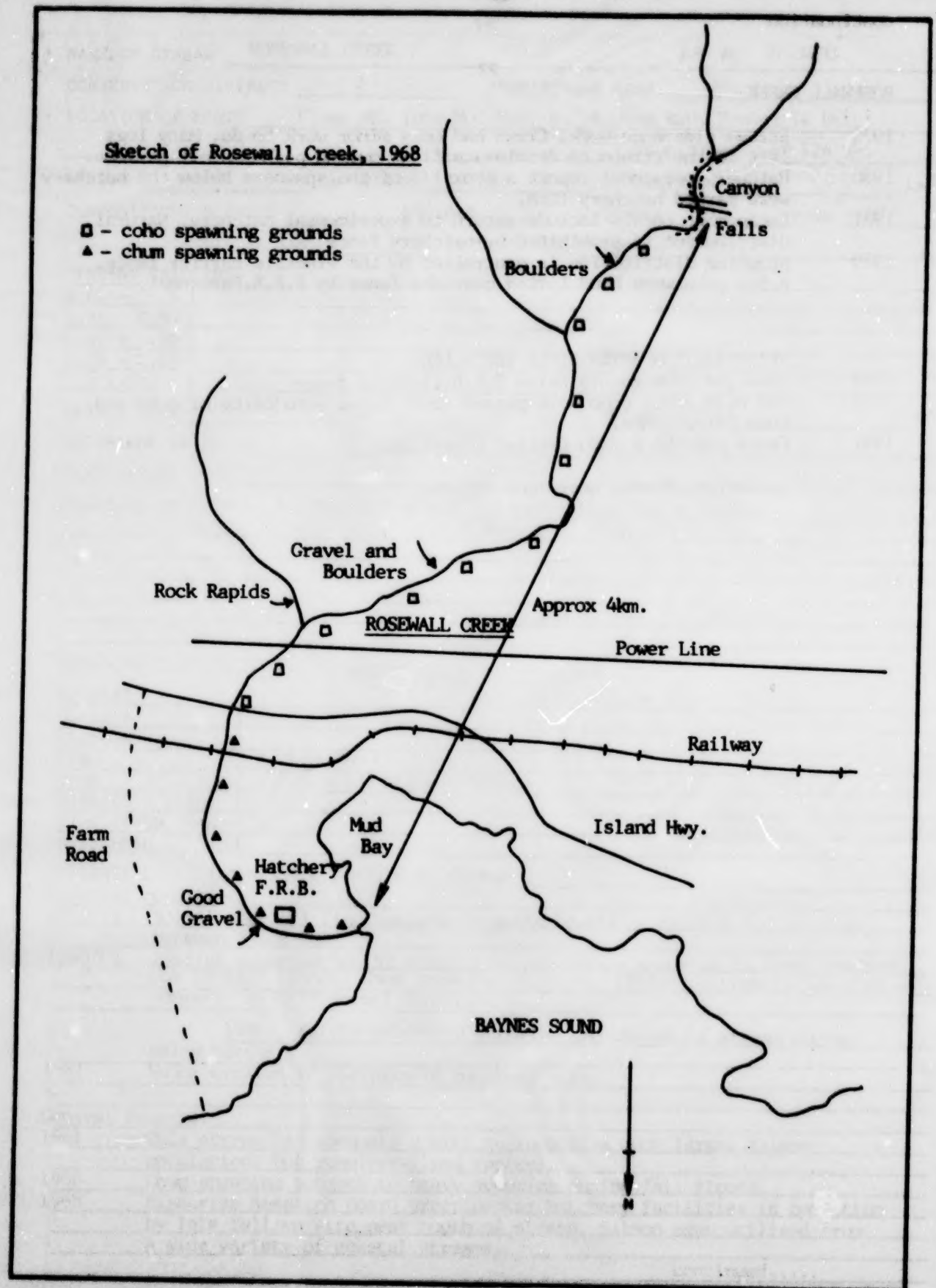
*DISTRIBUTION AFTER FENCE INSTALLED

1974 Coho and chum mainly below F.R.B.electric fence

1977 100 wild stock coho were passed above fence —majority of coho and chum below fence.

1981 Fence prohibits uncontrolled migration.

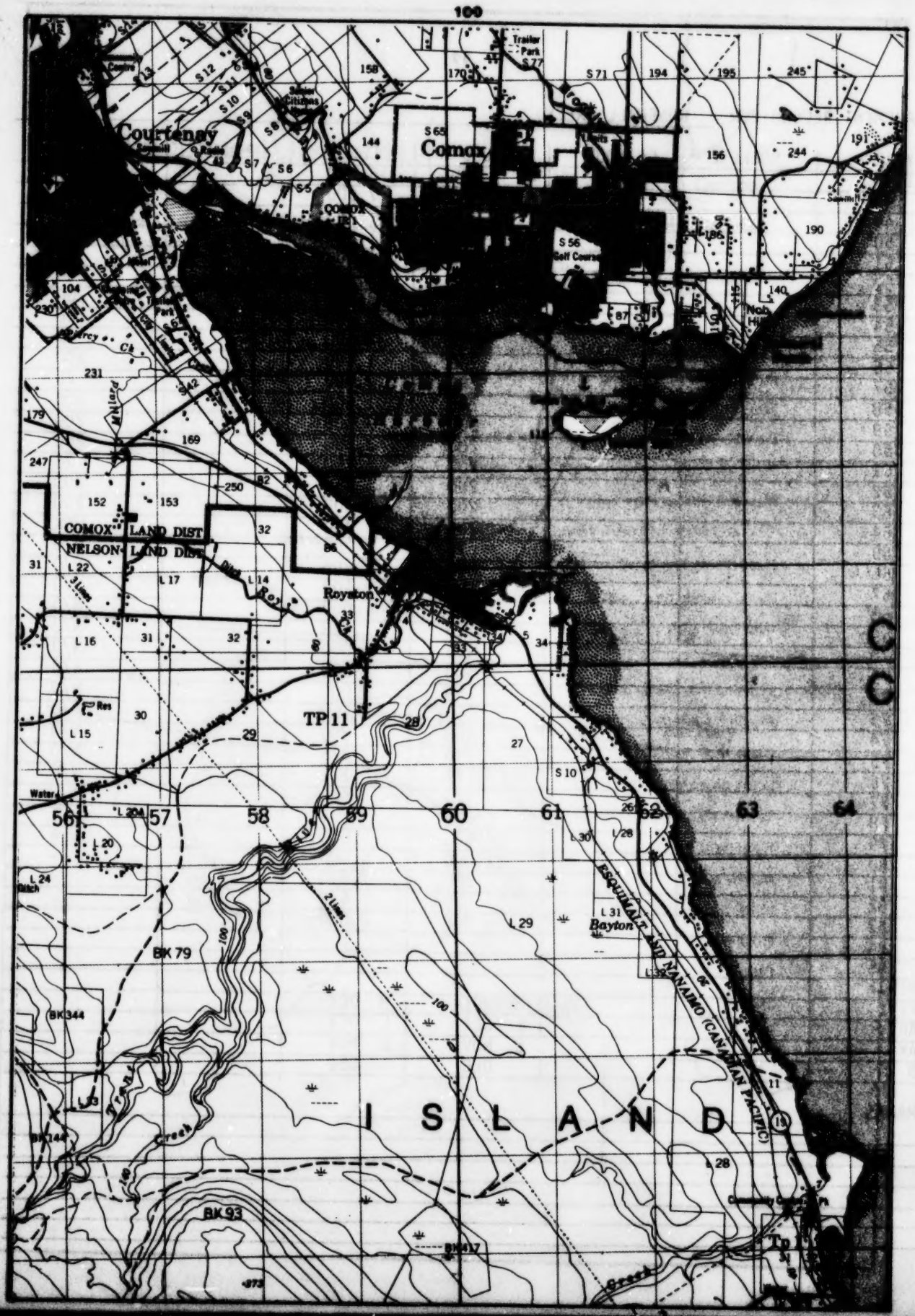
Predation: Birds, bears and otters.


Sketch of Rosewall Creek, 1968
- coho spawning grounds
- chum spawning grounds
Canyon
Falls
Boulders
Gravel and
Boulders
Rock Rapids
Approx 4km.
ROSEWALL CREEK
Power Line
Railway
Island Hwy.
Farm
Road
Mud
Bay
Hatchery
F.R.B.
Good
Gravel
BAYNES SOUND
N

ESCAPEMENT RECORD FOR ROSEWALL CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			750	15,000		N/O
48			750	7,500		N/O
49			75	750		UNK
50			400	1,500		200
51			400	7,500		75
52			750	3,500		200
53			400	3,500		200
54			400	3,500		200
55			200	3,500		75
56			200	1,500		200
57			200	3,500		75
58			200	1,500		200
59			200	3,500		200
60			200	3,500		200
61			200	750		75
62			200	750		200
63			200	400		200
64			200	750		UNK
65			75	200		N/O
66			200	1,500		N/O
67			150	2,500		N/O
68			400	6,000		N/O
69			160	1,400		N/O
70			450	2,000		N/O
71			500	600		N/O
72			150	3,000		N/O
73			250	2,650		N/O
74			300	800		N/O
75			150	325		N/O
76			75	125		N/O
77			475	600		-
78			-	-		
79			500	600		-
80			1,000	5,000		-
81			250	1,800		-
82			70	630		-
83			300	2,000		
84						
85						
TIMING:						
ARRIVE			M OCT	M OCT		
START			L OCT	L OCT		
PEAK			L NOV	L NOV		
END			DEC	DEC		

REMARKS


Courtenay
Comox
COMOX LAND DIST
NELSON LAND DIST
Royston
TP 11
Bayton
ESQUIMALT AND NANAIMO (CANADIAN PACIFIC)
ISLAND
BK 79
BK 344
BK 93
BK 417
56
57
58
59
60
61
62
63
64

NAME OF STREAM ROY CREEK (Royston Creek) RAB No. 92-2880

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Comox Hr. Nelson Dist.

POSITION 49 124 NW.

LENGTH _____ km WIDTH _____ m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT

Culvert at E & N Railway relieved by baffle installation .5km from stream mouth

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout, above the Island Hwy.
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS

1983 Erosion and slight silting resulting from upstream agricultural activity. Slight scouring at SEP site.

Water levels low in summer — high during fall and winter.

Predation: Birds and humans

ESCAPEMENT RECORD FOR ROY CREEK (Royston Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83			50			
84						
85						
TIMING:						
ARRIVE			Oct 15			
START			Oct. 31			
PEAK			Nov. 10			
END			Dec. 1			

REMARKS

STORRIE CREEK (Storrie Creek)

exact location unknown, but
close to Woods Creek P.130

NAME OF STREAM STORIE CREEK (Storrie Creek) RAB No. 92-1300-080

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Str. of Georgia, Comox Dist.

POSITION 49 55 125 11

LENGTH _____ km WIDTH _____ m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

Beaver dams and log jams — removed during migration.

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS Urban development is affecting rearing habitat and water quality in this stream. Water levels low in summer, high during fall and winter rains. (1983)

Predation by birds and humans.

ESCAPEMENT RECORD FOR STORIE CREEK (Storrie Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83			50			
84						
85						
TIMING:						
ARRIVE			Oct. 25			
START			Nov. 10			
PEAK			Nov. 30			
END			Dec. 10			

REMARKS

THAMES CREEK

see p. 72

NAME OF STREAM THAMES CREEK RAB Nos. 92-3460

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Str. of Georgia at Bowser, Newcastle Dist.

POSITION 48 123 SE.

LENGTH _____ km WIDTH _____ m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable during low flows — high ground culvert under Island Hwy. with concrete apron 180m from tidal waters

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- scattered throughout for approx 3.2km
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS A small creek with quite extensive spawning areas, but suffers acute low flow conditions in dry summers.

1974 Coho run was held up by acute shortage of water in the early fall. On Nov. 6th a massed migration of coho passed the Hwy. 19 culvert at a rate of 12 coho per 10 minute interval. Fish were in advanced spawning colours.

1976 Net fishing opening for Big Qualicum may take a toll on Thames Creek coho.

1981 Excess coho from the Big Qualicum used for restocking this stream.

1982 First year return from Big Qualicum transplant. Remedial work on highway culvert to be taken.

1970/83 Normal seasonal fluctuations in water levels.

ESCAPEMENT RECORD FOR THAMES CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68			NO RECORDS PRIOR TO 1970			
69						
70			200			UNK
71			200			UNK
72			75			UNK
73			75			UNK
74			200			N/O
75			75			N/O
76			25			N/O
77			25			-
78			25			-
79			N/O			-
80			N/O			-
81			N/O			-
82			30			-
83			10			
84						
85						
TIMING:						
ARRIVE			OCT			
START			NOV			
PEAK			NOV			
END			L DEC			

REMARKS

Trent River
N
0
2
kilometres

ESQUIMALT AND NANAIMO (CANADIAN PACIFIC)
ISLAND
TP11
Trent River
0
2
kilometres

NAME OF STREAM TRENT RIVER RAB No. 92-2900

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Comox Harbour, Nelson Dist.

POSITION 49 124 NW.

LENGTH 9 km WIDTH 16 m DRAINAGE _____ km²

COMPOSITION: BEDROCK 45 BOULDER 45 COARSE 5 FINE 5

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m² SPAWNING AREA _____ m²

DISCHARGE (m³/s) MAX 11.9 Apl. 18, 1971 MIN 0 Sept. 4, 1974

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable vertical drop falls 18 m high 9 km from mouth

large log wing dams first 1.2km decelerate flows — do not impede migrating salmon.

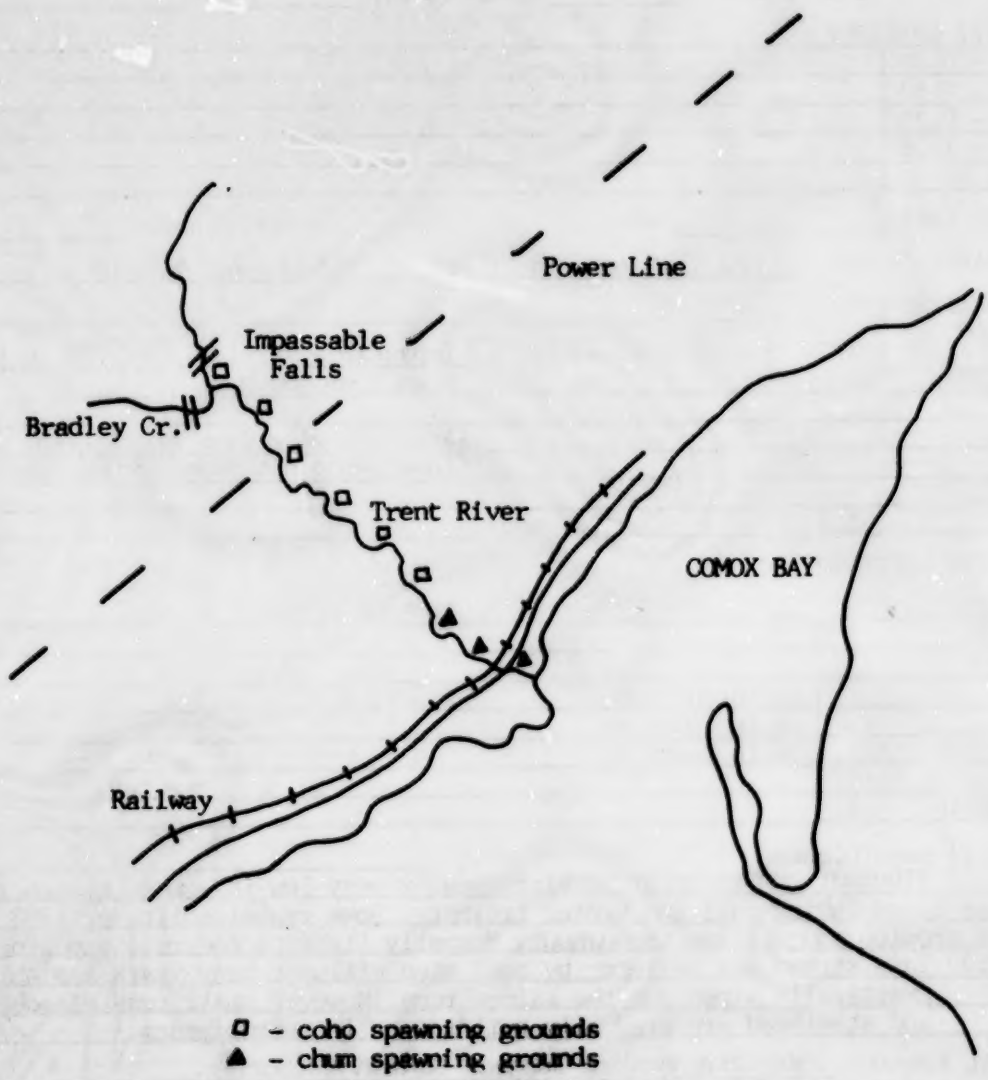
SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	- in lower km
PINK (ODD YEAR)	- in lower km
PINK (EVEN YEAR)	- " "
STEELHEAD	

Physical conditions:
Seasonal fluctuations in water levels. Usually very low in summer rising rapidly to near flood during fall and winter freshets. Some gravel shifting. 1983 Reported severe erosion and silting throughout. Normally light to moderate scouring.
1962/63 This stream was polluted by coal mine effluent many years ago which practically wiped out the salmon runs. However small runs of coho, chum and steelhead are gradually building up in recent years.

GENERAL REMARKS 1966 Chum seeding subject to heavy scouring.
1970 A most unusual heavy run of coho and an extremely late arrival of chum.
1980 Considerable reduction commercial fishing time in Johnson Straits. First recording of pinks in this system on the even year cycle.
1983 This years chum escapement is the highest return in 5 years and the second largest in the past 20 years.

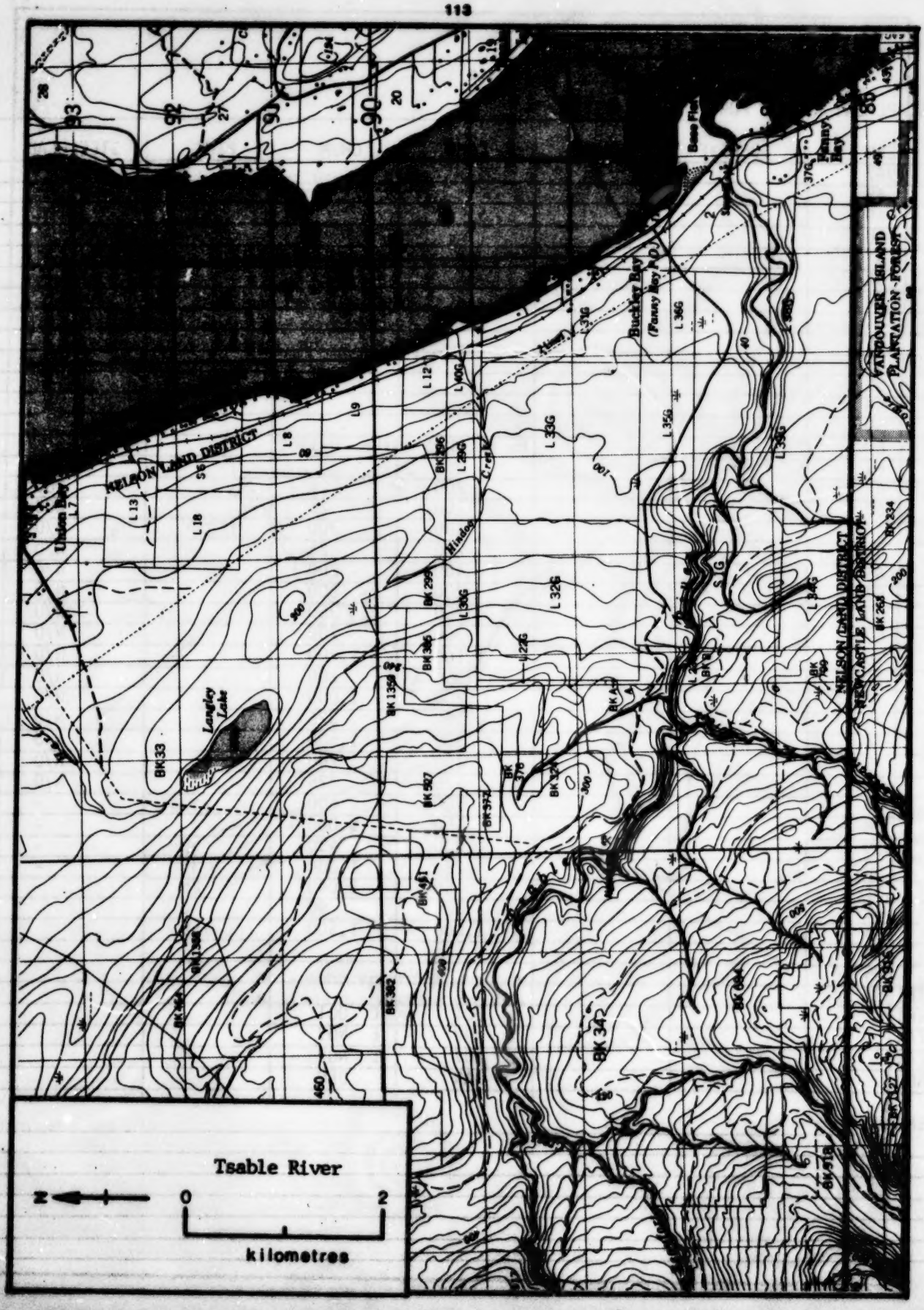
Sketch of Trent River, 1968



ESCAPEMENT RECORD FOR TRENT RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60			NO RECORDS PRIOR TO 1962			
61						
62			200	25		200
63			200	25		200
64			400	200		N/O
65			200	25		N/O
66			400	200		N/O
67			200	300		N/O
68			250	350		N/O
69			300	700		N/O
70			1,100	1,200		N/O
71			350	100		N/O
72			200	1,000		N/O
73			150	325		N/O
74			300	1,500		N/O
75			150	200		N/O
76			75	225		N/O
77			100	500		-
78			150	3,000		-
79			200	450	50	-
80			250	1,000	35	-
81			60	1,040	25	-
82			325	90	3	
83			1,000	1,500	150	
84						
85						
TIMING:						
ARRIVE			L OCT	L OCT		
START			E NOV	E NOV		
PEAK			L NOV	L NOV		
END			JAN	DEC		

REMARKS


Tsable River
N
0
2
kilometres
KELSON LAND DISTRICT
NELSON LAND DISTRICT
VANCOUVER ISLAND PLANTATION - FORES
Buckley Bay
(Fanny Bay P.O.)
Union Bay
Langley Lake
Hindes Creek
BK 34
BK33

Tsable River
N
0
2
kilometres

NAME OF STREAM TSABLE RIVER RAB No. 92-3000

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Baynes Sound, Nelson Dist.

POSITION 49 124 NW.

LENGTH 5 km WIDTH 23 m DRAINAGE ____ km²

COMPOSITION: BEDROCK ____ BOULDER 56 COARSE 19 FINE 19

SILT & SAND ____ UNCLASSIFIED pools 6

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA ____ m² SPAWNING AREA ____ m²

DISCHARGE (m³/s) MAX 261E Jan. 15, 1974 MIN 0.139 Aug. 20, 1977

TEMPERATURE (°C) ____

BARRIERS OR POINTS OF DIFFICULT ASCENT Series of vertical drop falls in canyon 5 km from mouth.

Impassable — observed by helicopter

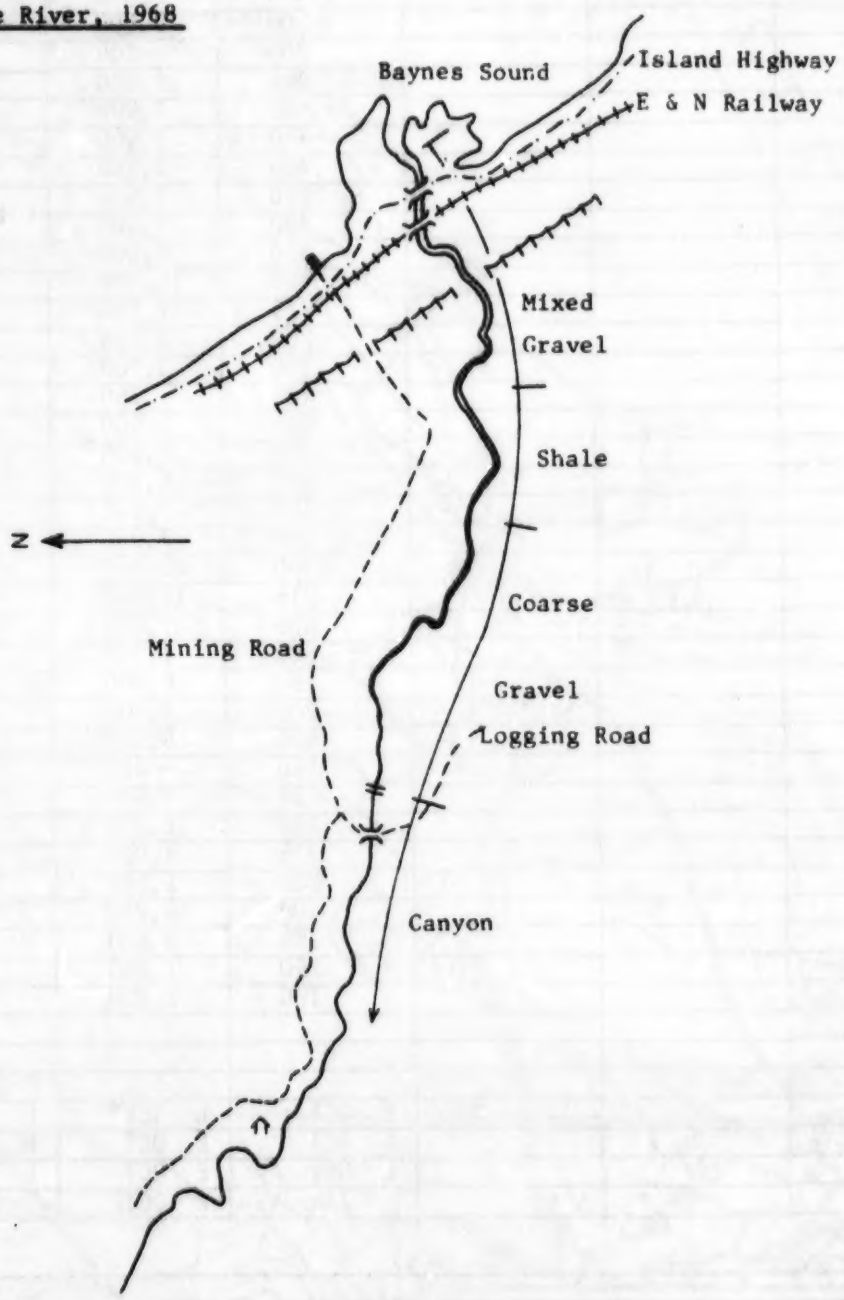
SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- mainly upper reaches, up to falls
CHUM	- in lower 3.2 km
PINK (ODD YEAR)	- " "
PINK (EVEN YEAR)	- " "
STEELHEAD	- throughout

Physical conditions:
Normal seasonal fluctuations in water levels.
1950/59 Extensive erosion and silting in middle and lower reaches 20% (1957/59)
1960/69 Very heavy scouring in lower reaches — pink and chum seeding affected (55,56
1975 Fall floods very heavy wiping out pink and spawning and some coho redds.
1980/83 Normal conditions.

GENERAL REMARKS 1954 September and October chum run improving greatly. Pink run very poor compared to 20 years ago.
1958 Water levels very high during Jan. and Feb. resulting is significant loss of spawn in middle and lower reaches.
1964 Upwelling from flooding of coal mine fire caused some deposits on river bed in early summer. By fall the river was running clear as mine fire has been sealed off.
1970 This stream had R/D casuals counting and pitching chum under a winter works enumeration program. The last wave of chum occurred after the program was terminated but the main or peak return was covered by the pitching crew.
1983 Turbid waters and difficult foot access make accurate spawning enumeration a problem on this stream

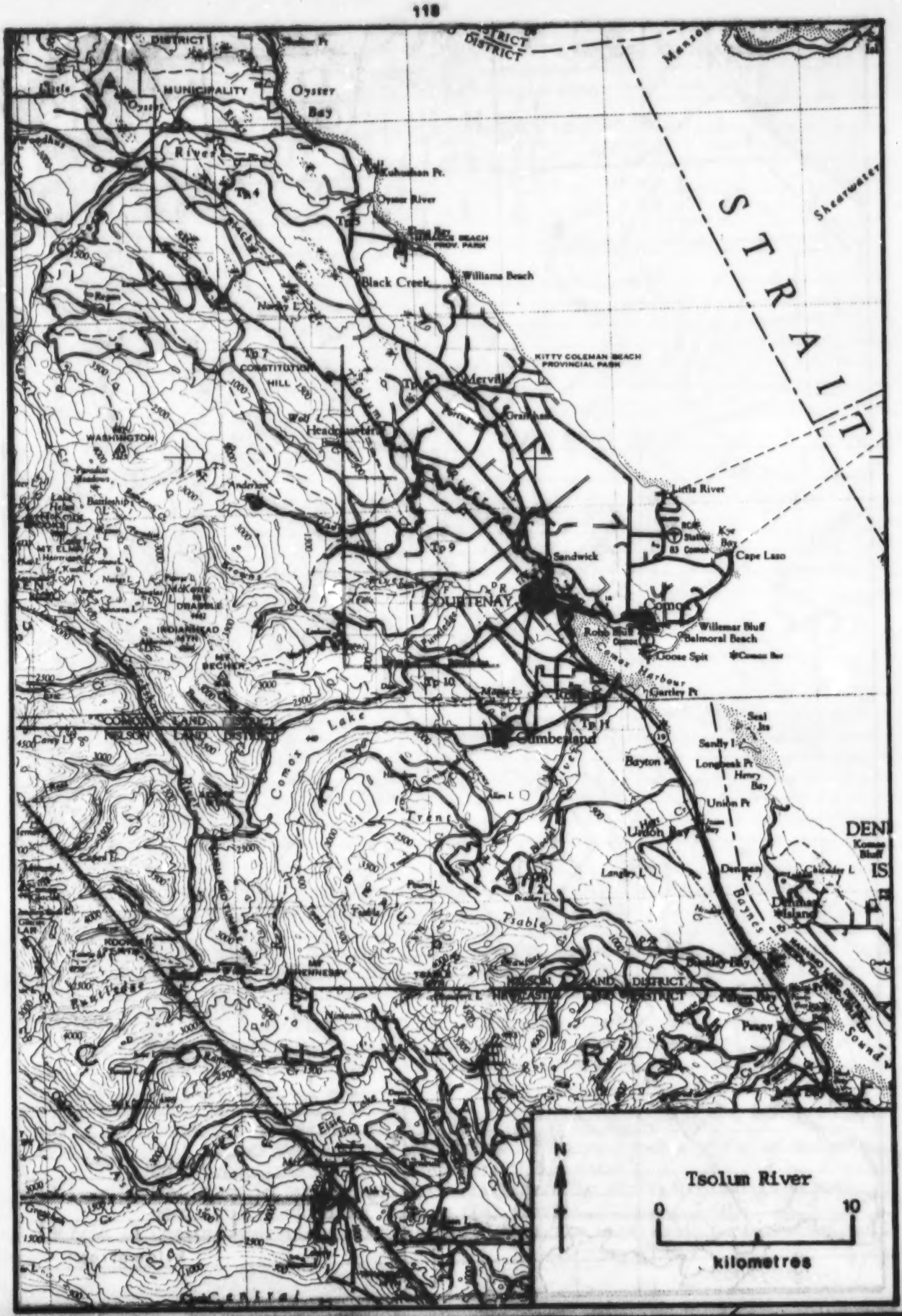
Sketch of Tsable River, 1968



ESCAPEMENT RECORD FOR TSABLE RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			3,500	7,500	200	UNK
48			1,500	7,500	N/O	UNK
49			200	3,500	75	UNK
50			200	200	25	UNK
51			400	15,000	750	400
52			3,500	7,500	75	400
53			750	7,500	400	1,500
54			400	7,500	200	400
55			200	3,500	200	400
56			400	7,500	75	400
57			400	7,500	400	400
58			400	15,000	75	400
59			75	7,500	25	400
60			200	3,500	75	400
61			200	3,500	25	400
62			200	750	1	400
63			200	1,500	25	400
64			400	7,500	N/O	UNK
65			200	1,500	N/O	N/O
66			400	7,500	75	UNK
67			350	7,000	200	N/O
68			300	21,000	250	N/O
69			215	11,500	50	N/O
70			400	7,000	25	N/O
71			500	1,100	100	N/O
72			150	16,000	25	N/O
73			200	3,500	25	N/O
74			500	6,500	100	N/O
75			150	400	10	N/O
76			75	7,500	30	N/O
77			260	2,200	25	-
78			275	4,000	25	-
79			200	1,500	200	-
80			400	6,200	350	-
81			150	8,600	220	-
82			250	1,200	40	-
83			100	2,000	85	
84						
85						
TIMING:						
ARRIVE			E OCT	L SEPT	E OCT	
START			L OCT	E OCT	M OCT	
PEAK			L NOV	E OCT	L NOV	
END			JAN	E OCT	DEC	

REMARKS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Black Creek
Williams Beach
KITTY COLEMAN BEACH PROVINCIAL PARK
Merville
Headquarters
Sandwick
COURTENAY
Comox
Cape Lazo
Little River
Willemar Bluff
Balmoral Beach
Goose Spit
Comox Harbour
Cumberland
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Tsolum River
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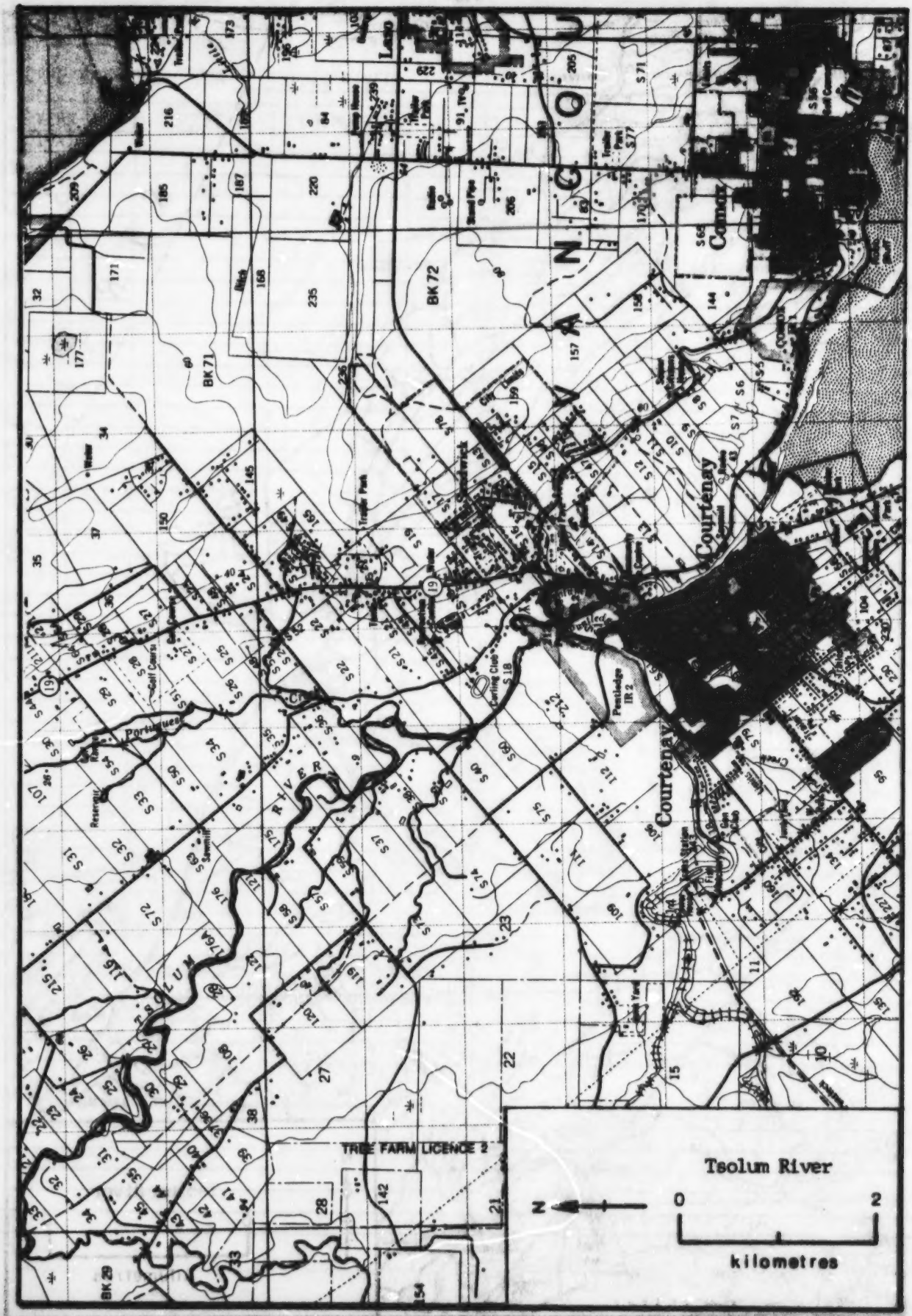
kilometres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TREE FARM LICENCE 2
Tsolum River
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NAME OF STREAM TSOLUM RIVER RAB No. 92-2800-010

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows SE. into Courtney River, Comox Dist.

POSITION 49 124 NW.

LENGTH 29 km WIDTH 22 m DRAINAGE ____ km²

COMPOSITION: BEDROCK 5 BOULDER 38 COARSE 16 FINE 16

SILT & SAND ____ UNCLASSIFIED pools 24

PERCENT GRADIENT

0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA ____ m² SPAWNING AREA ____ m²

DISCHARGE (m^3/s) MAX 192 Jan. 15, 1973 MIN 0.031 Aug 4, 1965

TEMPERATURE (°C) ____

BARRIERS OR POINTS OF DIFFICULT ASCENT Logging debris — removed as required — otherwise left to function as flow control

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	- in lower reaches for 3 km
PINK (ODD YEAR)	- well into Headquarters Creek
PINK (EVEN YEAR)	- " "
STEELHEAD	

Physical conditions: Rapid changes in water levels. 1956/59 Reported extensive erosion and silting. Extensive scouring from logs and debris dislodged through freshets.

1960/69 Extensive silting and erosion — heavy scouring — shifting gravel bars.

1970/79 1975 Very heavy flooding — took out culverts and flooded main roads.
1976 Good water levels supplemented by flow releases from Wolf Lake.
1983 Severe erosion and silting in lower 12 km. Water levels very low in summer to near flood during fall and winter rains. Some over-spawning by chum. 1981 Later spawning chum utilized same gravel as pinks.

GENERAL REMARKS:

1953 Heavy fry salvaging required in tributaries every year.

1958 This stream subject to flash floods. Barrier fence erected at mouth to prevent loss of pinks during very low water.

1961 Low water in summer and flood conditions in winter point up the dire need for a controlled flow on this river.

1962/64 Logging operations continue throughout the watershed, contributing to

continued....

continuation

TSOLUM RIVER

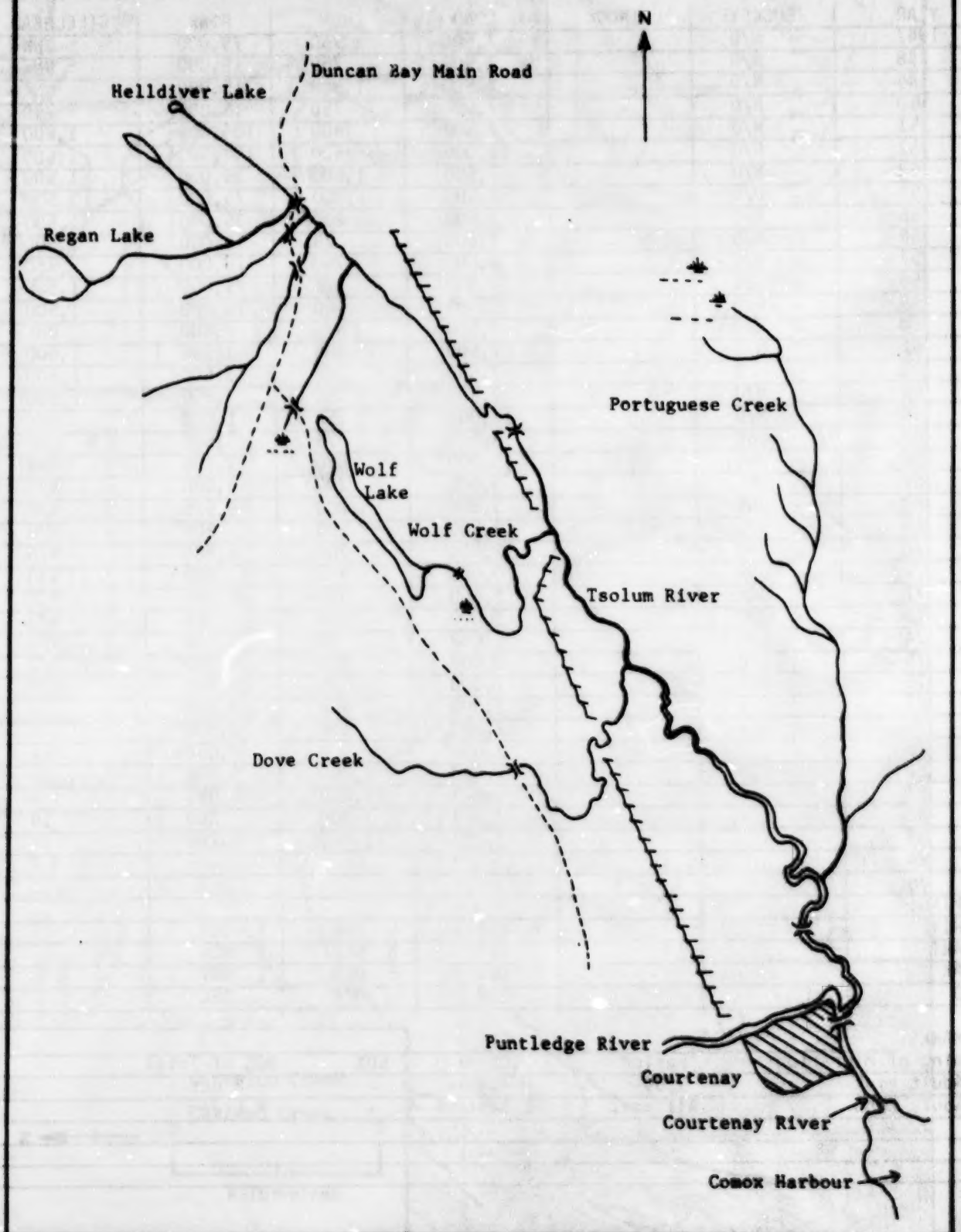
1962/64 the flood and draught conditions on this river.
1965 Logging operations on the Tsolum watershed and milling from Mt. Washington Mine contributes to the silting of this stream. Water levels are not stable in this system -- subject to rapid rises in water levels and draught in summers.
1970 Winter Works stream clearing crew spent over a week on Constitution Cr., a tributary of the Tsolum.
1975 12 Spring carcasses reported in lower 3/4 mile of stream by a reliable person.
1980 Considerable reduction in commercial fishing time in Johnson Straits.
1983 Pink salmon stocks continue to decline.

Timing of Migration	Period	10%	50%	90% of total
Juvenile pink	1964	Apl. 10	Apl. 18	Apl. 30
Juvenile pink	1965	Apl.8	Apl. 15	Apl. 24

The Tsolum River flows parallel to the coastal plain and because of this no falls exist on the mainstem. The lower 5km of stream has some flood plain with a bed composition of gravel and rock compacted by sand and silt. From 5 - 14 km very little stable gravel is found with boulders and bedrock predominating. The major gravel deposits are located upstream of 14 km.
Low flows inhibit the upstream migration and result in significant mortality in some years.

Accessible tributaries: Portuguese Creek, Headquarters Creek, Dove Creek.

Sketch of Tsolum River, 1968

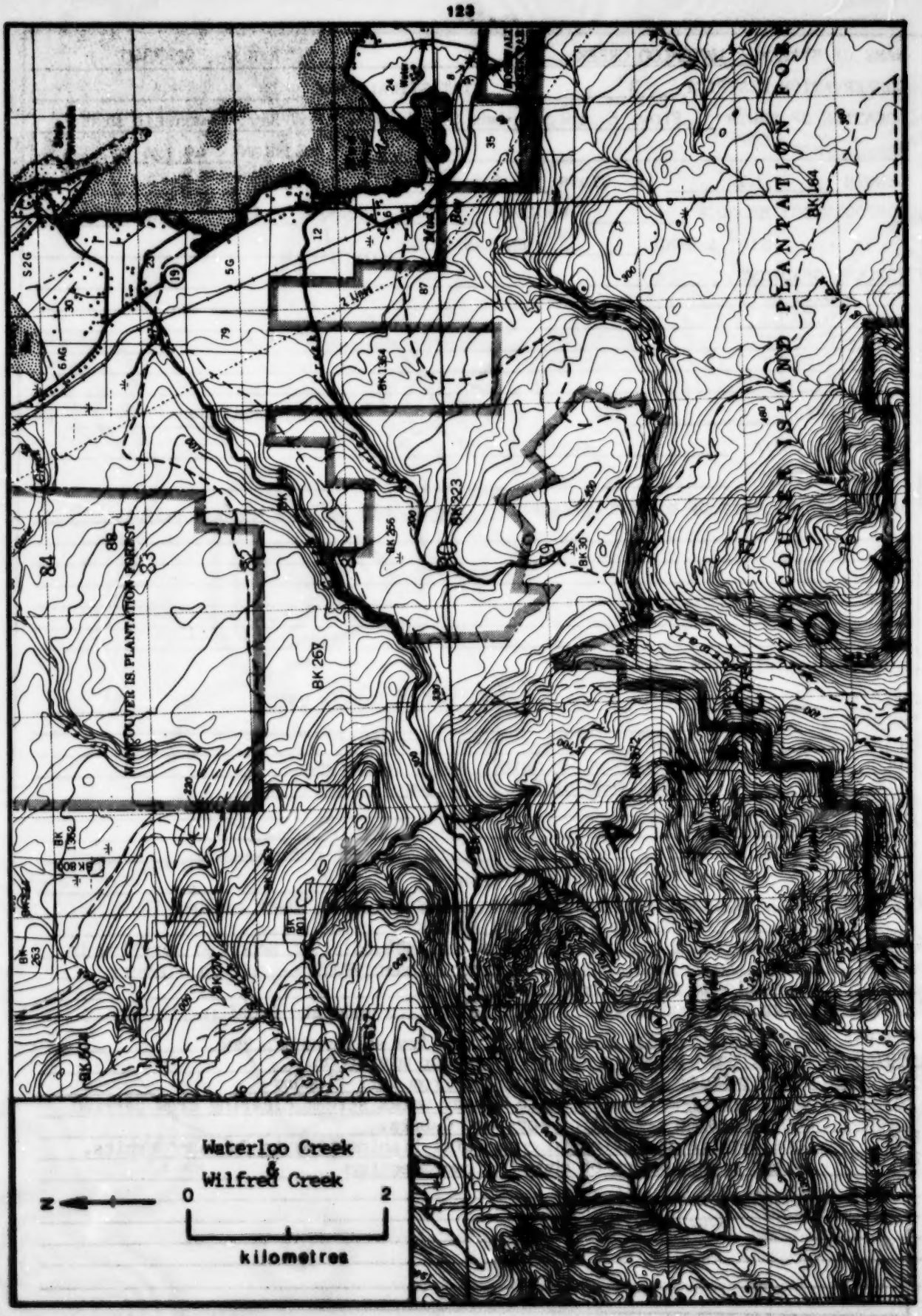


ESCAPEMENT RECORD FOR TSOLUM RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	N/O		7,500	750	75,000	UNK
48	N/O		3,500	750	15,000	UNK
49	N/O		7,500	1,500	15,000	UNK
50	N/O		7,500	750	15,000	750
51	N/O		7,500	400	100,000+	1,500
52	N/O		15,000	400	100,000+	1,500
53	N/O		7,500	1,500	35,000	1,500
54	N/O		7,500	1,500	75,000	3,500
55	N/O		3,500	200	35,000	1,500
56	N/O		7,500	75	15,000	1,500
57	N/O		7,500	750	75,000	750
58	25		7,500	25	75,000	1,500
59	N/O		15,000	400	15,000	1,500
60	N/O		7,500	N/O	7,500	UNK
61	N/O		7,500	200	7,500	1,500
62	3		7,500	200	3,500	1,500
63	N/O		7,500	750	7,500	1,500
64	N/O		15,000	750	1,500	UNK
65	UNK		3,500	75	3,500	UNK
66	UNK		15,000	N/O	7,500	UNK
67	UNK		3,000	200	3,000	N/O
68	UNK		3,800	5,000	5,525	N/O
69	N/O		2,500	500	200	N/O
70	UNK		12,000	200	6,880	N/O
71	UNK		10,000	N/O	800	N/O
72	UNK		2,500	N/O	10,000	N/O
73	UNK		3,000	N/O	3,368	N/O
74	UNK		5,000	50	10,100	N/O
75	UNK		3,000	200	10,000	N/O
76	UNK		1,000	75	10,000	N/O
77	-		2,300	500	3,800	-
78	-		2,500	150	1,500	-
79			2,000	-	7,000	-
80	10		1,800	7,000	5,000	-
81	-		1,000	11,000	5,095	-
82	-		2,000	300	200	10
83			1,000	11,000	1,200	
84						
85						
TIMING:						
ARRIVE			E OCT	L AUG	L OCT	
START			L OCT	M SEPT	E NOV	
PEAK			L NOV	E OCT	L NOV	
END			JAN	L OCT	DEC	

REMARKS

Timing of Migration:	Period	10%	50%	90% of Total
Adult Pink	1959	M Aug	-	M Oct
Adult Coho	All yrs.	L Sept	-	L Jan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Waterloo Creek
&
Wilfred Creek
N
0
2
kilometres

NAME OF STREAM WATERLOO CREEK RAB No. 92-3340

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Baynes Sound, N. of Mud Bay, Newcastle Dist.

POSITION 49 124 SW.

LENGTH 3.2 km WIDTH 5.5 m DRAINAGE ____ km²

COMPOSITION: BEDROCK ____ BOULDER 75 COARSE 13 FINE 12

SILT & SAND ____ UNCLASSIFIED ____

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA ____ m² SPAWNING AREA ____ m²

DISCHARGE (m^3/s) ____

TEMPERATURE (°C) ____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable falls 4 km from mouth

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout — mainly above Island Hwy.
CHUM	- downstream of E.& N. Railway Bridge
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

Physical condition: 1950/59 Slight erosion and silting in lower reaches (54) water very low during summer.

1960/69 Moderate scouring in lower 3/4 mile (1966,68) 1968 Reported very low in summer. Early high levels compared to past years — subject to very heavy floods during chum spawning.

1970/79 No unusual conditions . 1980/83 Slight to moderate erosion.

GENERAL REMARKS 1952 -1700 chum and 600 coho fry salvaged in June.

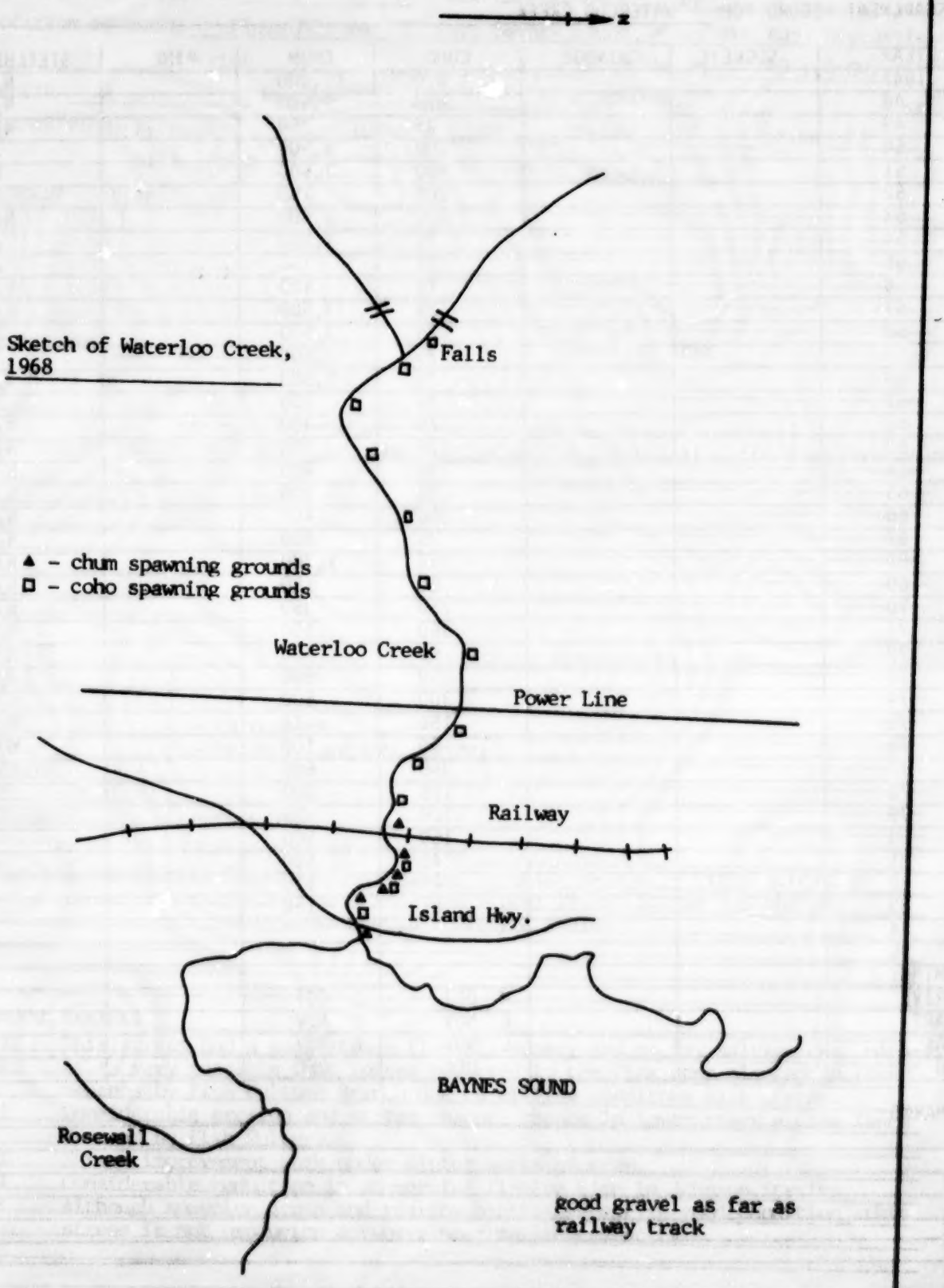
1959/63 Beaver dams breached as necessary for migration.

1966 Chum spawning subject to scouring from fall floods.

1970 Migrating coho delayed while winter works stream clearing crew carried out extensive removal of logs and debris.

1980 Considerable reduction in commercial fishing time in Johnson Straits.

1981 Slight overspawning of chum in lower section.


N
Sketch of Waterloo Creek, 1968
Falls
▲ - chum spawning grounds
□ - coho spawning grounds
Waterloo Creek
Power Line
Railway
Island Hwy.
BAYNES SOUND
Rosewall Creek
good gravel as far as railway track

ESCAPEMENT RECORD FOR WATERLOO CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			N/O	15,000		N/O
48			N/O	7,500		N/O
49			25	750		N/O
50			200	1,500		75
51			200	1,500		25
52			200	750		25
53			200	1,500		N/O
54			75	1,500		25
55			75	750		25
56			75	400		N/O
57			25	3,500		N/O
58			25	3,500		25
59			75	1,500		25
60			75	1,500		N/O
61			25	200		25
62			75	400		N/O
63			75	750		N/O
64			200	400		N/O
65			25	200		N/O
66			200	400		N/O
67			75	400		N/O
68			150	1,200		N/O
69			50	150		N/O
70			250	350		N/O
71			350	100		N/O
72			50	400		N/O
73			150	800		N/O
74			300	500		N/O
75			150	75		N/O
76			50	100		N/O
77			350	600		-
78			175	800		-
79			100	125		-
80			150	500		-
81			45	500		-
82			20	110		-
83			25	150		
84						
85						
TIMING:						
ARRIVE			M OCT	L OCT		
START			E NOV	E NOV		
PEAK			L NOV	L NOV		
END			DEC	DEC		

REMARKS

NAME OF STREAM WILFRED CREEK (Coal Creek) RAB No. 92-3300

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. and SE. into Baynes Sound, N. of Mud Bay, Newcastle District POSITION 49 124 SW.

LENGTH 4 km WIDTH 12 m DRAINAGE _____ km^2

COMPOSITION: BEDROCK _____ BOULDER 47 COARSE 27 FINE 23

SILT & SAND _____ UNCLASSIFIED pools 3

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m^2 SPAWNING AREA _____ m^2

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Impassable 6 m vertical falls 4 km from mouth

SPAWNING DISTRIBUTION

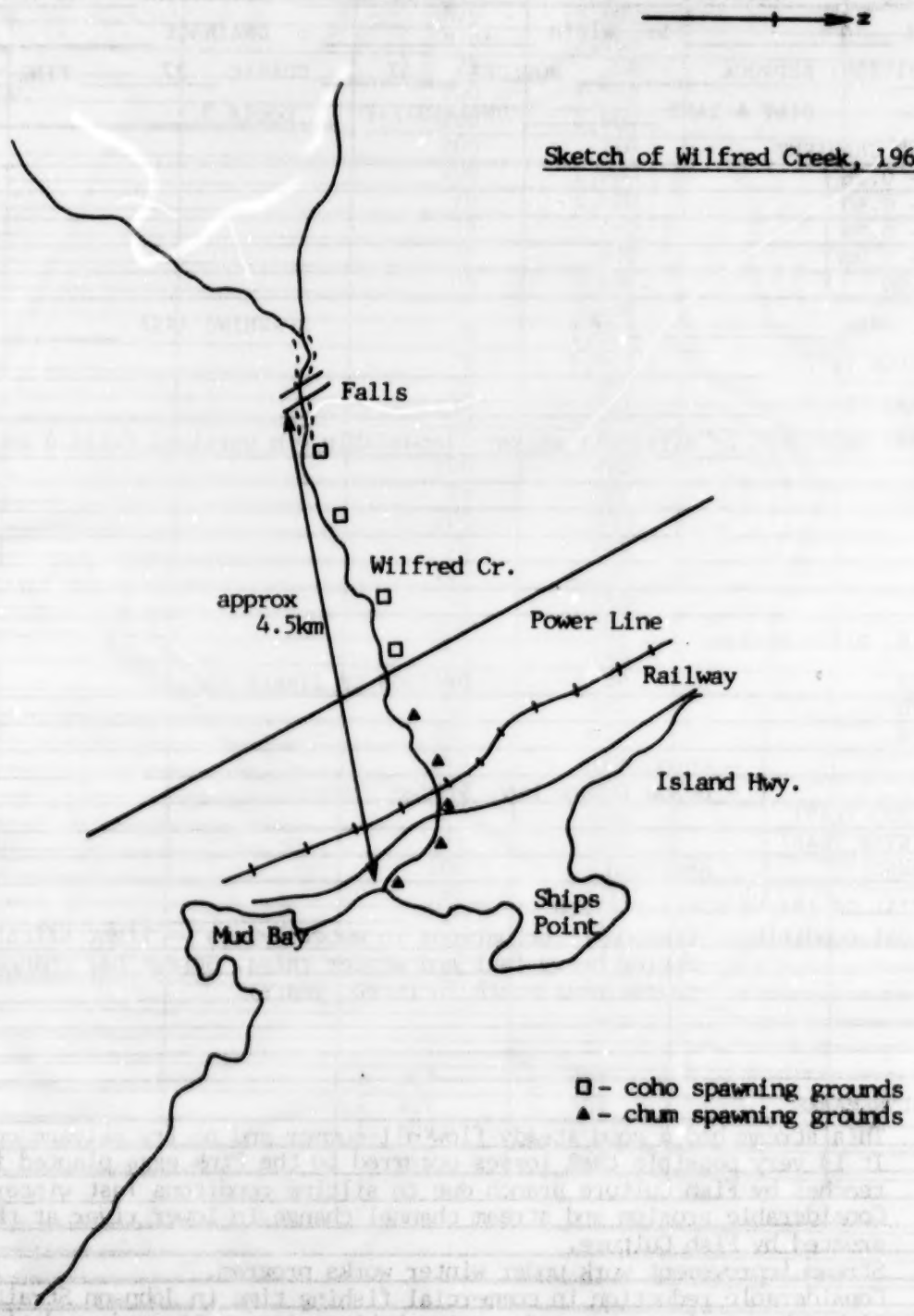
SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	- below Island Hwy. Bridge
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	- observed

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

Physical conditions: Seasonal fluctuations in water levels -- light siltation during heavy fall and winter rains. Stream has changed course near mouth in recent years.

GENERAL REMARKS

1950 This stream had a good steady flow all summer and no fry salvage ops. necessary.
1959 It is very possible that losses occurred to the Pink eggs planted in lower reaches by Fish Culture Branch due to silting conditons last winter.
1960 Considerable erosion and stream channel change in lower river at the fence erected by Fish Culture.
1970 Stream improvement work under winter works program.
1980 Considerable reduction in commercial fishing time in Johnson Straits.
1983 Although spawning areas and rearing habitat appear in good condition, this stream is not producing anywhere near optimum capacity.

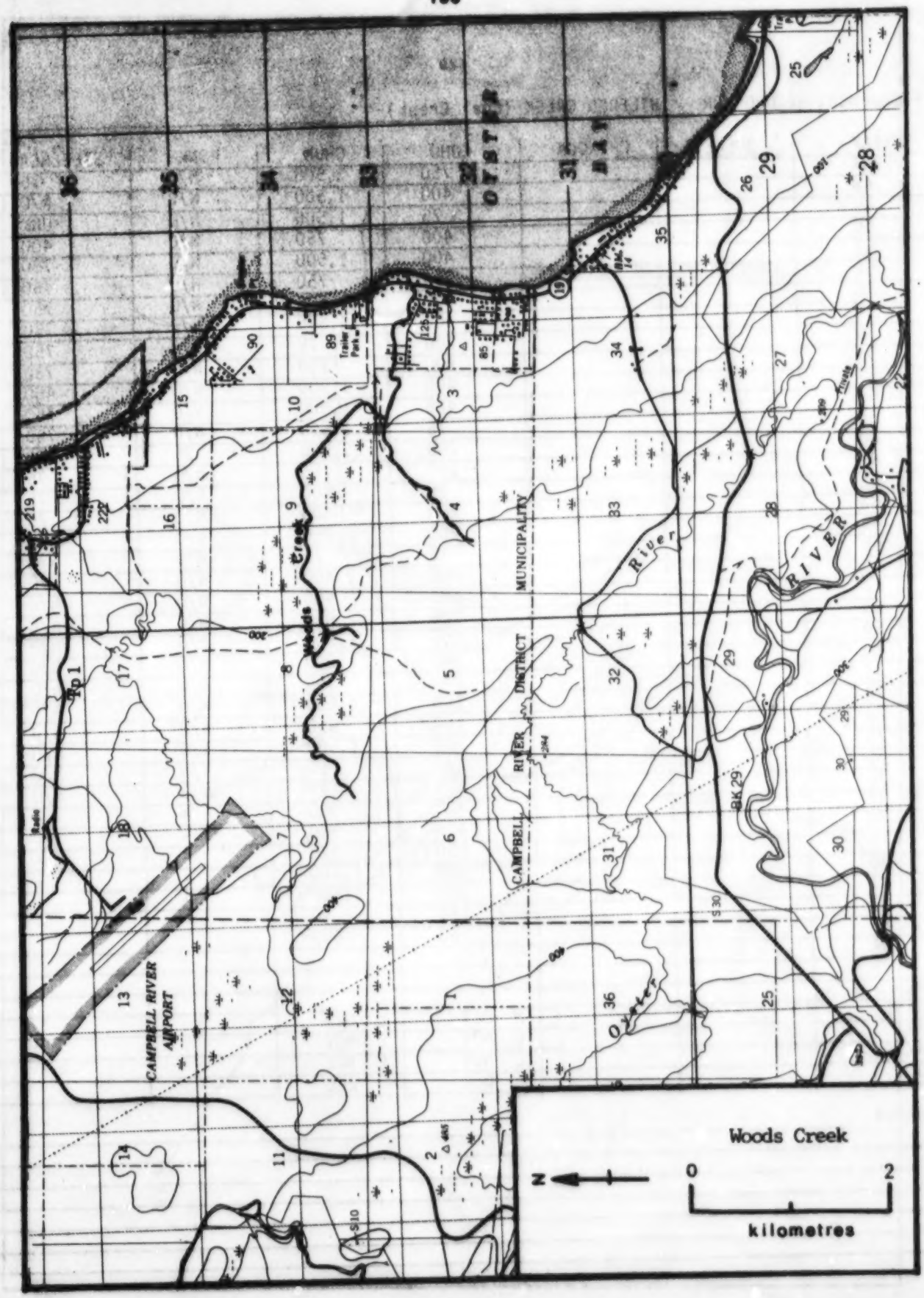


Sketch of Wilfred Creek, 1968

ESCAPEMENT RECORD FOR WILFRED CREEK (Coal Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			750	3,500	N/O	75
48			400	1,500	N/O	N/O
49			75	1,500	N/O	UNK
50			400	750	N/O	400
51			400	1,500	N/O	750
52			750	750	N/O	750
53			400	1,500	N/O	750
54			400	3,500	N/O	750
55			200	75	N/O	750
56			400	750	N/O	750
57			400	1,500	N/O	400
58			400	1,500	N/O	750
59			75	1,500	N/O	750
60			200	1,500	25	400
61			200	750	N/O	75
62			75	400	N/O	75
63			200	400	N/O	75
64			200	750	N/O	UNK
65			75	75	N/O	N/O
66			200	400	N/O	N/O
67			100	900	N/O	N/O
68			125	2,500	N/O	N/O
69			100	1,000	N/O	N/O
70			200	1,000	N/O	N/O
71			250	300	N/O	N/O
72			100	4,000	N/O	N/O
73			100	950	N/O	N/O
74			300	1,500	N/O	N/O
75			100	50	N/O	N/O
76			75	125	N/O	N/O
77			425	900	-	-
78			400	750	-	-
79			250	325	-	-
80			300	1,400	-	-
81			100	1,525	-	-
82			50	80	-	-
83			50	650		
84						
85						
TIMING:						
ARRIVE			M OCT	L OCT		
START			E NOV	E NOV		
PEAK			L NOV	L NOV		
END			DEC	DEC		

REMARKS


OYSTER BAY
CAMPBELL RIVER AIRPORT
Woods Creek
MUNICIPALITY
DISTRICT
CAMPBELL RIVER
Oyster River
Woods Creek
Rd 1
Trailer Park
Radio
Woods Creek
N
0
2
kilometres

NAME OF STREAM (Woods Creek) RAB No. 92-2670

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Oyster Bay, E. side of Vancouver Island, Comox Dist. close to Storie Creek. POSITION 49° 55' 125° 11'

LENGTH 6.5 km WIDTH _____ m DRAINAGE _____ km²

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

PERCENT GRADIENT	
0.00 - 0.25	
0.25 - 0.50	
0.50 - 0.75	
0.75 - 1.00	
>1.00	

WETTED AREA _____ m² SPAWNING AREA _____ m²

DISCHARGE (m^3/s) _____

TEMPERATURE (°C) _____

BARRIERS OR POINTS OF DIFFICULT ASCENT Passable beaver dams in middle and upper reaches -- breached as required.
Numerous beaver dams in South Arm of Creek are destroying habitat (1980)

SPAWNING DISTRIBUTION

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout system
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

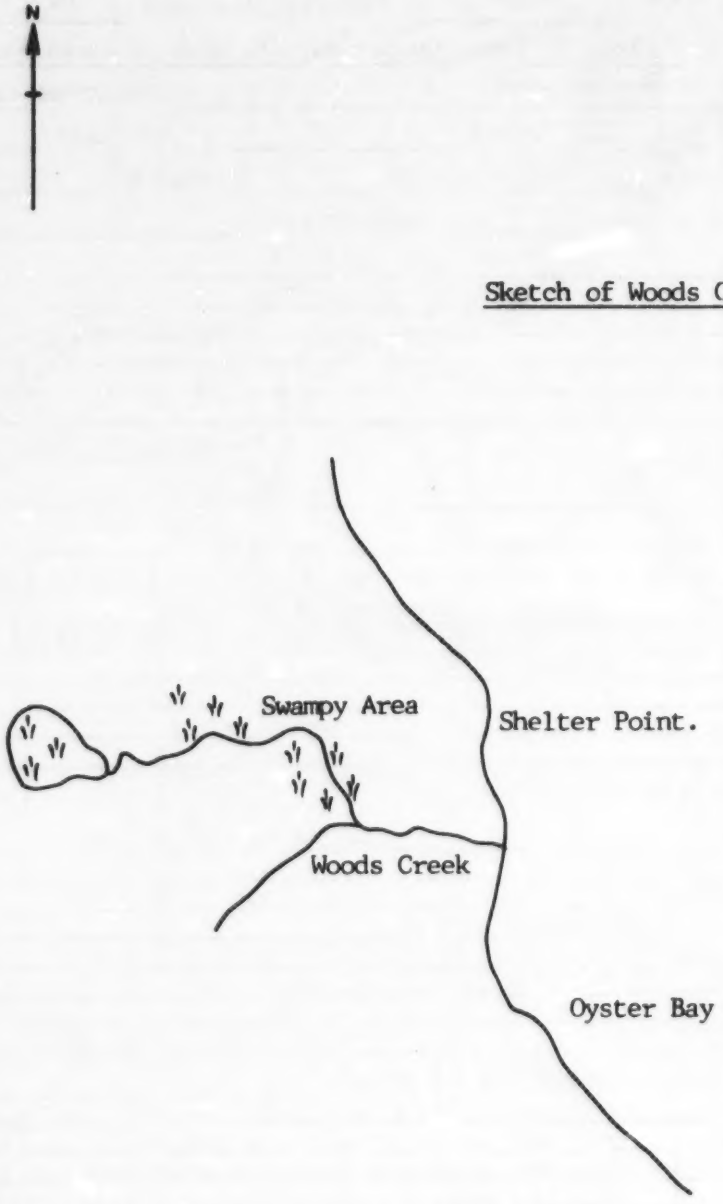
Physical conditions: Moderate silting in middle reaches. Low swampy area in mid section of stream. Low and dry at mouth during summer, but fry survive in swampy ponds. Very low gradients with little damage to stream during floods (1973)

GENERAL REMARKS 1972/79 Escapement includes nearby Storie Creek.

1980 A proposal for a golf course in this area has been received.

1983 The spawning and rearing habitat and water quality in this stream are being degraded by urban development.

Predation by bears, birds and public.



Sketch of Woods Creek, 1970

ESCAPEMENT RECORD FOR WOODS CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68			NO RECORDS PRIOR TO 1970			
69						
70			300			
71			350			
72			250			
73			200			
74			300			
75			200			
76			75			
77			100			
78			100			
79			100			
80			100			
81			10			
82			20			
83			NOT INSPECTED			
84						
85						
TIMING:						
ARRIVE			L OCT			
START			E NOV			
PEAK			L NOV			
END			DEC			

REMARKS

- Escapement records from 1972 - 1976 include Storie Creek.

Metric Equivalents

CONVERSION FACTORS

The following list of convenient equivalents of measure gives the relationship between imperial units and the International System of Units (SI).

1 inch equals 2.54 cm (centimetres)
1 foot equals 0.3048 m (metre)
1 statute mile equals 1.6093 km (kilometres)

1 cm (centimetre) equals 0.393 70 inch
1 m (metre) equals 3.2808 feet
1 km (kilometre) equals 0.621 37 mile

1 acre equals 43 560 square feet
1 acre equals 0.404 69 ha (hectare)
1 square mile equals 640 acres
1 square mile equals 2.5900 km^2 (square kilometres)
1 square mile equals 259.0 ha (hectares)

1 ha (hectare) equals 10 000 m^2 (square metres)
1 ha (hectare) equals 2.4710 acres
1 km^2 (square kilometre) equals 0.386 10 square mile

1 cubic foot equals 6.2288 imperial gallons
1 imperial gallon equals 4.546 09 L (litres)
1 imperial gallon equals 1.2010 U.S. gallons
1 U.S. gallon equals 0.133 68 cubic foot
1 cubic foot equals 0.068 317 m^3 (cubic metre)
1 m^3 (cubic metre) equals 35.315 cubic feet

1 cubic foot per second for one day equals 1.9835 acre-feet
1 cubic foot per second for one day covers one square mile to a depth of 0.037 19 inch
1 acre-foot equals 1.2335 dam^3 (cubic decametres)
1 m^3/s (cubic metre per second) for one day equals 86.4 dam^3 (cubic decametre)
1 m^3/s (cubic metre per second) for one day covers one square kilometre to a depth of 0.0864 m (metre)

1 foot per second equals 0.6818 mile per hour
1 mile per hour equals 1.467 feet per second
1 m/s (metre per second) equals 3.6 km/h (kilometre per hour)
1 km/h (kilometre per hour) equals 0.2778 m/s (metre per second)

1 cubic foot per second equals 0.028 317 m^3/s (cubic metre per second)
1 m^3/s (cubic metre per second) equals 35.315 cubic feet per second

1 pound equals 0.453 59 kg (kilogram)
1 kg (kilogram) equals 2.2046 pounds

1 short ton (2000 pounds) equals 0.907 18 t (tonne)
1 t (tonne) equals 2204.6 pounds

degrees Celsius = 5/9 (degrees Fahrenheit - 32)
degrees Fahrenheit = 9/5 (degrees Celsius) + 32

FACTEURS DE CONVERSION

Voici une liste des unités de mesure impériales et leurs équivalences dans le Système international d'unités (SI).

1 pouce vaut 2.54 cm (centimètres)
1 pied vaut 0.3043 m (mètre)
1 mille terrestre équivaut à 1.6093 km (kilomètre)

1 cm (centimètre) équivaut à 0.393 70 pouce
1 m (mètre) équivaut à 3.2808 pieds
1 km (kilomètre) équivaut à 0.621 37 mille

1 acre vaut 43 560 pieds carrés
1 acre équivaut à 0.404 69 ha (hectare)
1 mille carré vaut 640 acres
1 mille carré équivaut à 2.5900 km^2 (kilomètres carrés)
1 mille carré équivaut à 259.0 ha (hectare)

1 ha (hectare) vaut 10 000 m^2 (mètres carrés)
1 ha (hectare) équivaut à 2.4710 acres
1 km^2 (kilomètre carré) équivaut à 0.386 10 mille carré

1 pied cube équivaut à 6.2288 gallons impériais
1 gallon impérial vaut 4.546 09 L (litres)
1 gallon impérial équivaut à 1.2010 gallon américain
1 gallon américain équivaut à 0.133 68 pied cube
1 pied cube vaut 0.068 317 m^3 (mètre cube)
1 m^3 (mètre cube) vaut 35.315 pieds cubes

1 pied cube par seconde pendant un jour équivaut à 1.9835 acre-pied
1 pied cube par seconde pendant un jour équivaut à un volume d'un mille carré par 0.037 19 pouce
1 acre-pied équivaut à 1.2335 dam^3 (décamètres cubes)
1 m^3/s (mètre cube par seconde) pour un jour vaut 86.4 dam^3 (décamètre cube)
1 m^3/s (mètre cube par seconde) pour un jour couvre un kilomètre carré à une profondeur de 0.0864 m (mètre)

1 pied par seconde équivaut à 0.6818 mille par heure
1 mille par heure équivaut à 1.467 pied par seconde
1 m/s (mètre par seconde) vaut 3.6 km/h (kilomètre par heure)
1 km/h (kilomètre par heure) vaut 0.2778 m/s (mètre par seconde)

1 pied cube par seconde équivaut à 0.028 317 m^3/s (mètre cube par seconde)
1 m^3/s (mètre cube par seconde) équivaut à 35.315 pieds cubes par seconde

1 livre équivaut à 0.453 59 kg (kilogramme)
1 kg (kilogramme) équivaut à 2.2046 livres

1 tonne courte (2000 livres) équivaut à 0.907 18 t (tonne)
1 t (tonne) équivaut à 2204.6 livres

degrés Celsius = 5/9 (degrés Fahrenheit - 32)
degrés Fahrenheit = 9/5 (degrés Celsius) + 32